

SOI: 1.1/TAS
DOI: 10.15863/TAS

ISSN 2308-4944 (print)
ISSN 2409-0085 (online)

№ 02 (70) 2019

Teoretičeskaâ i prikladnaâ nauka

Theoretical & Applied Science



Philadelphia, USA

**Teoretičkaâ i prikladnaâ
nauka**

**Theoretical & Applied
Science**

02 (70)

2019

International Scientific Journal

Theoretical & Applied Science

Founder: **International Academy of Theoretical & Applied Sciences**

Published since 2013 year. Issued Monthly.

International scientific journal «Theoretical & Applied Science», registered in France, and indexed more than 45 international scientific bases.

Editorial office: <http://T-Science.org> Phone: +777727-606-81

E-mail: T-Science@mail.ru

Editor-in Chief:

Alexandr Shevtsov

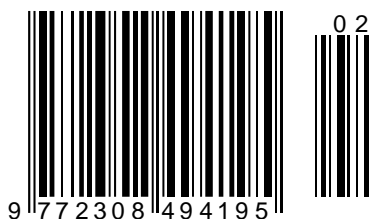
Hirsch index:

h Index RISC = 1 (78)

Editorial Board:

1	Prof.	Vladimir Kestelman	USA	h Index Scopus = 3 (38)
2	Prof.	Arne Jönsson	Sweden	h Index Scopus = 4 (21)
3	Prof.	Sagat Zhunisbekov	KZ	-
4	Assistant of Prof.	Boselin Prabhu	India	-
5	Lecturer	Denis Chemezov	Russia	h Index RISC = 2 (61)
6	Senior specialist	Elnur Hasanov	Azerbaijan	h Index Scopus = 5 (11)
7	Associate Prof.	Christo Ananth	India	h Index Scopus = - (1)
8	Prof.	Shafa Aliyev	Azerbaijan	h Index Scopus = - (1)
9	Associate Prof.	Ramesh Kumar	India	h Index Scopus = - (2)
10	Associate Prof.	S. Sathish	India	h Index Scopus = 2 (13)
11	Researcher	Rohit Kumar Verma	India	-
12	Prof.	Kerem Shixaliyev	Azerbaijan	-
13	Associate Prof.	Ananeva Elena Pavlovna	Russia	h Index RISC = 1 (19)
14	Associate Prof.	Muhammad Hussein Noure Elahi	Iran	-
15	Assistant of Prof.	Tamar Shiukashvili	Georgia	-
16	Prof.	Said Abdullaevich Salekhov	Russia	-
17	Prof.	Vladimir Timofeevich Prokhorov	Russia	-
18	Researcher	Bobir Ortikmirzayevich Tursunov	Uzbekistan	-
19	Associate Prof.	Victor Aleksandrovich Melent'ev	Russia	-
20	Prof.	Manuchar Shishinashvili	Georgia	-

ISSN 2308-4944



© Collective of Authors

© «Theoretical & Applied Science»

International Scientific Journal Theoretical & Applied Science

Editorial Board:

Hirsch index:

21

Prof. Konstantin Kurpayanidi

Uzbekistan **h Index RISC = 8 (67)**

International Scientific Journal
Theoretical & Applied Science



ISJ Theoretical & Applied Science, 02 (70), 364.
Philadelphia, USA



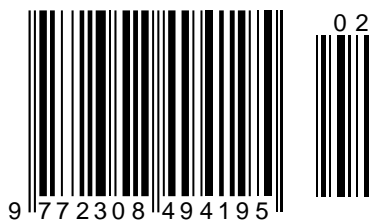
Impact Factor ICV = 6.630

Impact Factor ISI = 0.829
based on International Citation Report (ICR)

The percentage of rejected articles:



ISSN 2308-4944



Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2019 Issue: 02 Volume: 70

Published: 28.02.2019 <http://T-Science.org>

QR – Issue



QR – Article



SECTION 7. Mechanics and machine construction.

Denis Chemezov
M.Sc.Eng., Corresponding Member of International Academy of Theoretical and Applied Sciences, Lecturer of Vladimir Industrial College, Russian Federation
<https://orcid.org/0000-0002-2747-552X>
chemezov-da@yandex.ru

Anzhelika Bayakina
Lecturer of Vladimir Industrial College, Russian Federation

Lyubov Suvorova
Student of Vladimir Industrial College, Russian Federation

Irina Pavluchina
Lecturer of Vladimir Industrial College, Russian Federation

Oleg Stepanov
Student of Vladimir Industrial College, Russian Federation

Alexandra Strunina
Lecturer of Vladimir Industrial College, Russian Federation

Ivan Mochalov
Lecturer of Vladimir Industrial College, Russian Federation

Elena Kiseleva
Master of Industrial Training, Vladimir Industrial College, Russian Federation

ISOSURFACES OF MECHANICAL STRESSES IN CANTILEVER AND DOUBLY SUPPORTED STEEL I-BEAMS SUBJECT TO BENDING

Abstract: Comparison of stress condition of cantilever and doubly supported steel I-beams after removing of external forces and moment was performed in the article. Stresses tensors are presented by color contours on a volume of deformed models of the I-beams. The most dangerous sections of the I-beams subject to bending at action of various external active loads were determined.

Key words: an I-beam, bending, stress, tensor, deformation, force, moment, a model, a component.

Language: English

Citation: Chemezov, D., et al. (2019). Isosurfaces of mechanical stresses in cantilever and doubly supported steel I-beams subject to bending. *ISJ Theoretical & Applied Science*, 02 (70), 301-339.

Soi: <http://s-o-i.org/1.1/TAS-02-70-30> **Doi:**  <https://dx.doi.org/10.15863/TAS.2019.02.70.30>

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

Introduction

I-beams are subjected to bending at action of external active forces and moments [1 – 9]. A small value of load on the I-beam causes elastic deformations in material. Plastic deformation occurs with the value increasing of applied load. Plastic deformation of the steel I-beam leads to a shape changing of structural elements (flanges and a web), cracks development and subsequent partial destruction of material. Maximum stress occurs in a material volume at maximum deflection of the I-beam and in a field of supports at different loading schemes. Stress in material can be presented by normal and tangential stresses that occur along three coordinate axes of the Cartesian coordinate system. Thus, complete volumetric presentation of stress condition of material at the calculation of stresses tensors is given. This will reveal the most loaded outer and inner layers of the I-beams material by means of constructed isosurfaces.

Materials and methods

Materials and methods of research of the computer experiments are presented in the work [10]. The research objects were models of the cantilever and doubly supported I-beams, on which external active forces (concentrated and distributed) and moments were applied.

Results and discussion

The models of four cantilever and five doubly supported I-beams were subjected to bending. The isosurfaces of mechanical stresses of the steel I-beams after removing of concentrated moment (A and E), concentrated force (B, C, F and H) and distributed force (D, G and I) are presented in the Fig. 1 – 36. All models of the cantilever I-beams were rigidly fixed to a wall on the left side. All models of the doubly supported I-beams were mounted on the hinged immovable support (left) and the hinged movable support (right).

Stress visualization of the steel I-beam at bending is presented by Gauss-points. Directions of the first, second and third principal stresses of the deformed I-beams material are determined by the x , y and z coordinate axes in accordance with the coordinate system located in the lower left corner of each figure. Principal stresses directions of material of the cantilever I-beams were determined: the volumes of the bottom flange, the web on the right side and on the side of rigid restraint on all axes at action of concentrated moment clockwise; the volumes of the web and the beam flanges on the y and z axes at action of concentrated force on a loose end of the beam; complex stress condition, a right part of the beam has not subjected to stress (the y -

axis) at action of concentrated force on $1/2$ of the beam length; the volumes of the web and the flange below the neutral axis, the top flange at action of distributed force along the entire length of the beam. Principal stresses directions of material of the doubly supported I-beams were determined: the volumes of the top and bottom flanges, the part of the web at action of concentrated moment clockwise; complex stress condition at action of concentrated and distributed forces on $1/2$ of the beam length, distributed force along the entire length of the beam and concentrated force on $1/3$ of the beam length.

The first Piola-Kirchhoff stress tensor (asymmetric) is a material measure of stress in the deformed point of a solid. It is defined as the ratio of stress vector to an unit normal. Tensor is presented by the $xX - zZ$ components. The xY and yX , xZ and zX , yZ and zY components are the same by the value and distribution of the isosurfaces of the I-beam material stresses. The calculated stress value in the zZ component is maximum of all nine components.

The deviatoric second Piola-Kirchhoff stress tensor (symmetric) is presented as shear stress tensor. Shear stress at bending of the cantilever and doubly supported I-beams is observed in the volumes of the flanges and the web in direction of the X , Y , Z coordinate axes and the YZ coordinate plane. Stress in direction of the XY and XZ coordinate planes occurs only in the flanges of the I-beams.

Stress tensor is second-rank tensor consisting of nine parameters (written as a matrix) presenting mechanical stresses at the arbitrary point of the loaded solid. Calculated stress tensor of the I-beams material consists of six components. The values and distribution of stresses in the x component are identical to stresses in the xX component of the first Piola-Kirchhoff stress tensor. The values and distribution of stresses in the xy component are identical to stresses in the xY and yX components of the first Piola-Kirchhoff stress tensor and in the XY component of the deviatoric second Piola-Kirchhoff stress tensor. The values and distribution of stresses in the xz component are identical to stresses in the xZ and zX components of the first Piola-Kirchhoff stress tensor and in the XZ component of the deviatoric second Piola-Kirchhoff stress tensor. The values and distribution of stresses in the y component are identical to stresses in the yY component of the first Piola-Kirchhoff stress tensor. The values and distribution of stresses in the yz component are identical to stresses in the yZ and zY components of the first Piola-Kirchhoff stress tensor and in the YZ component of the deviatoric second Piola-Kirchhoff stress tensor. The values and distribution of stresses in the z component are identical to stresses in the zZ component of the first Piola-Kirchhoff stress tensor.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIIHJ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

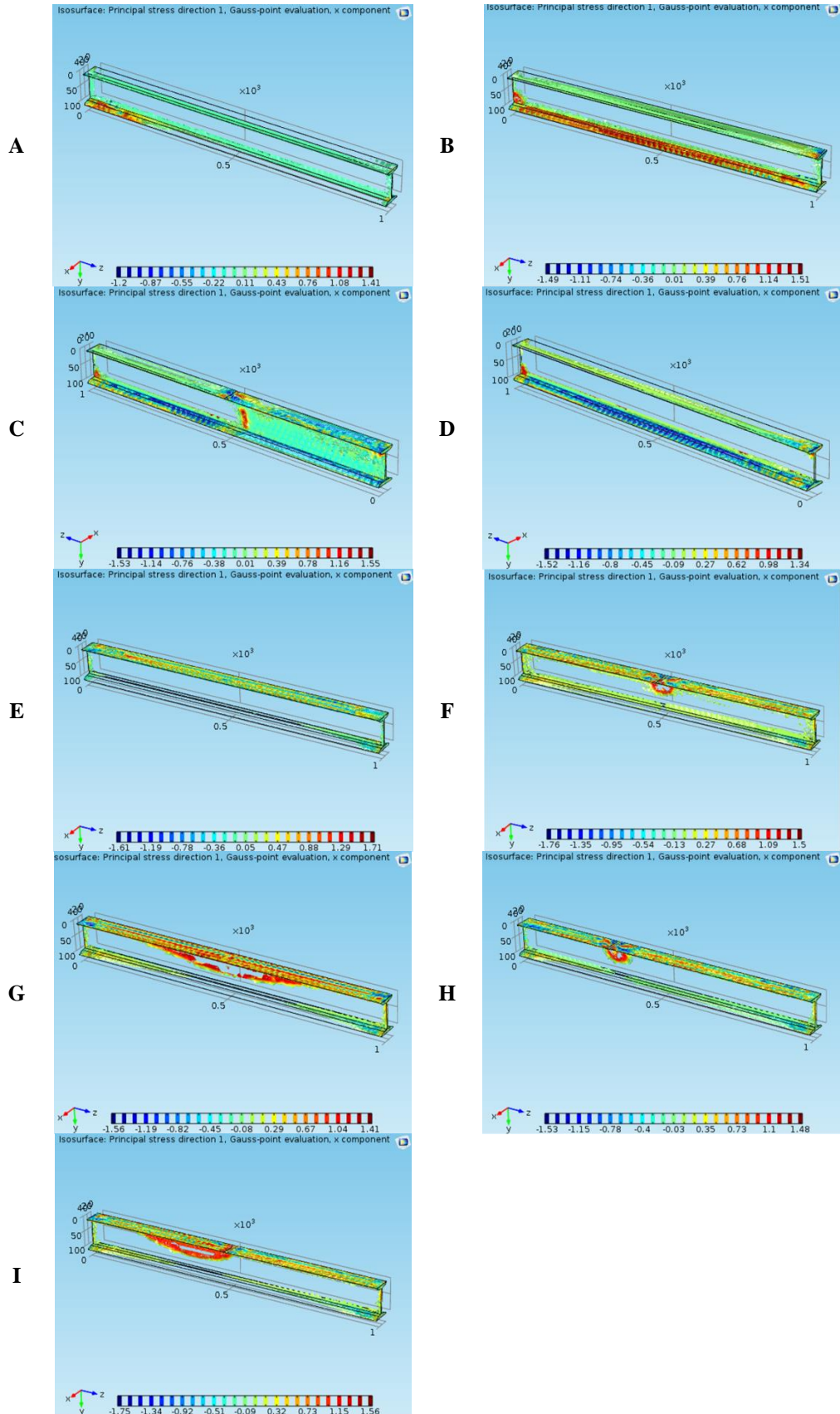


Figure 1 – Principal stress direction 1, x component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

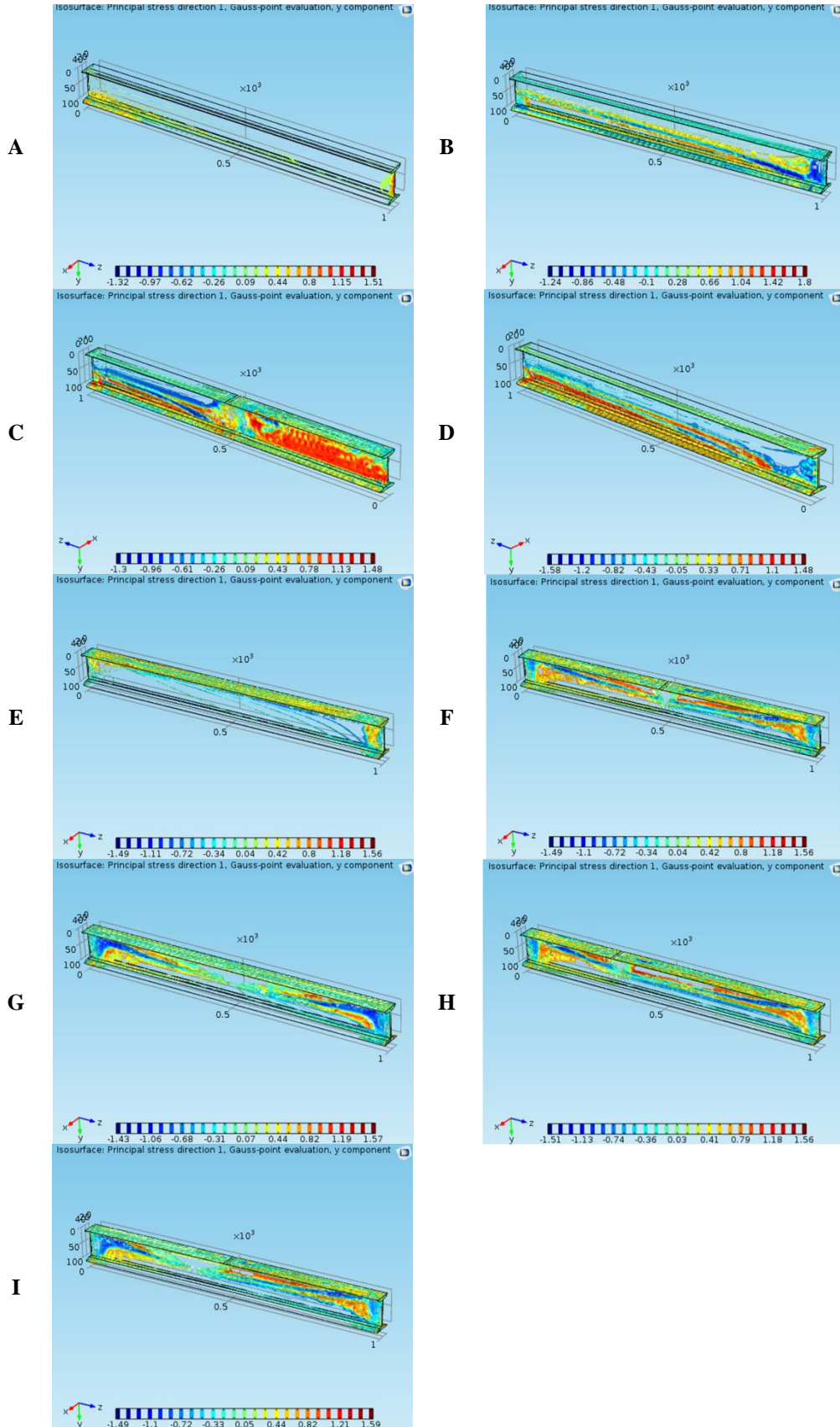


Figure 2 – Principal stress direction 1, y component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIIHJ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

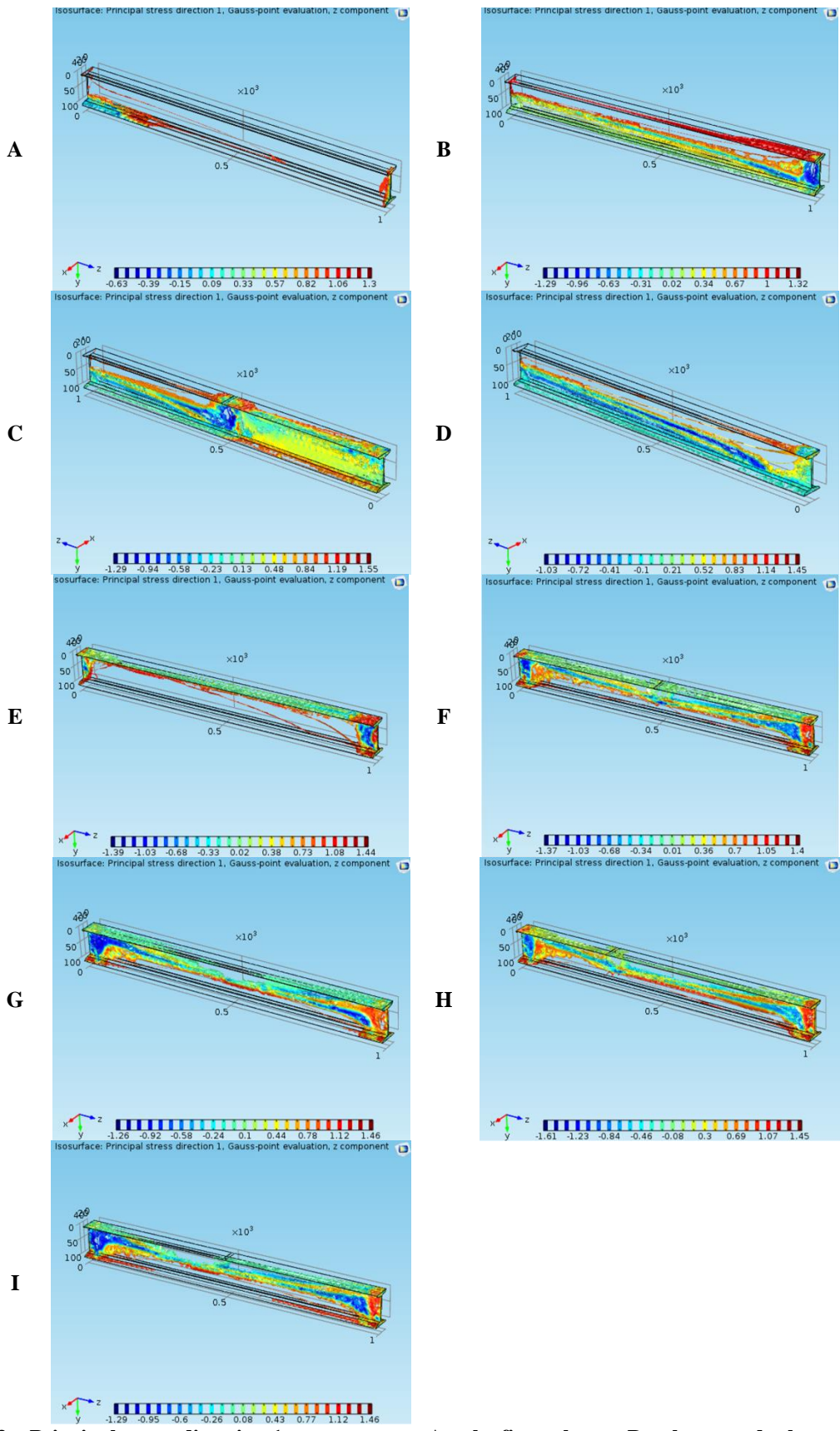


Figure 3 – Principal stress direction 1, z component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

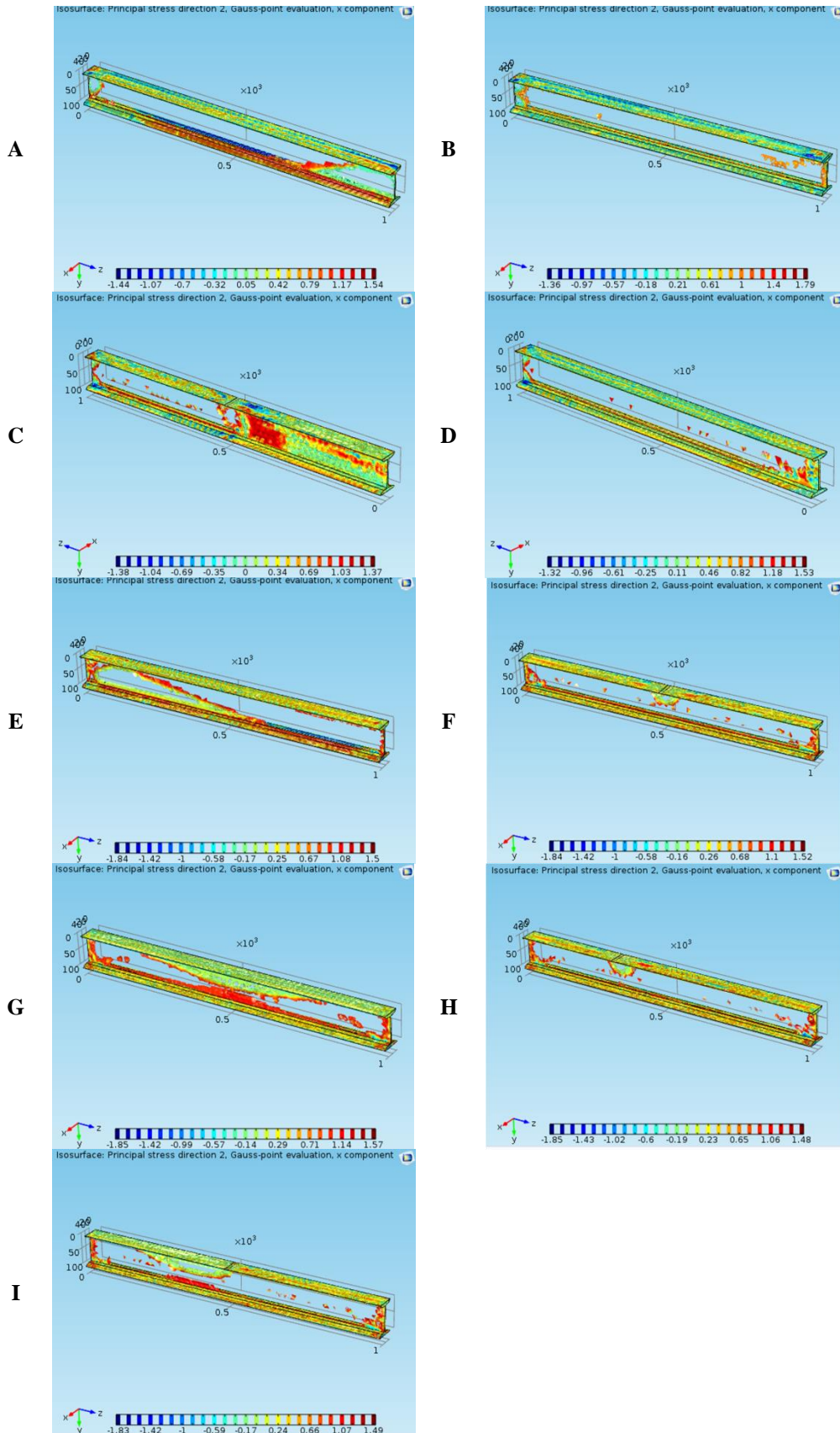


Figure 4 – Principal stress direction 2, x component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIIHJ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

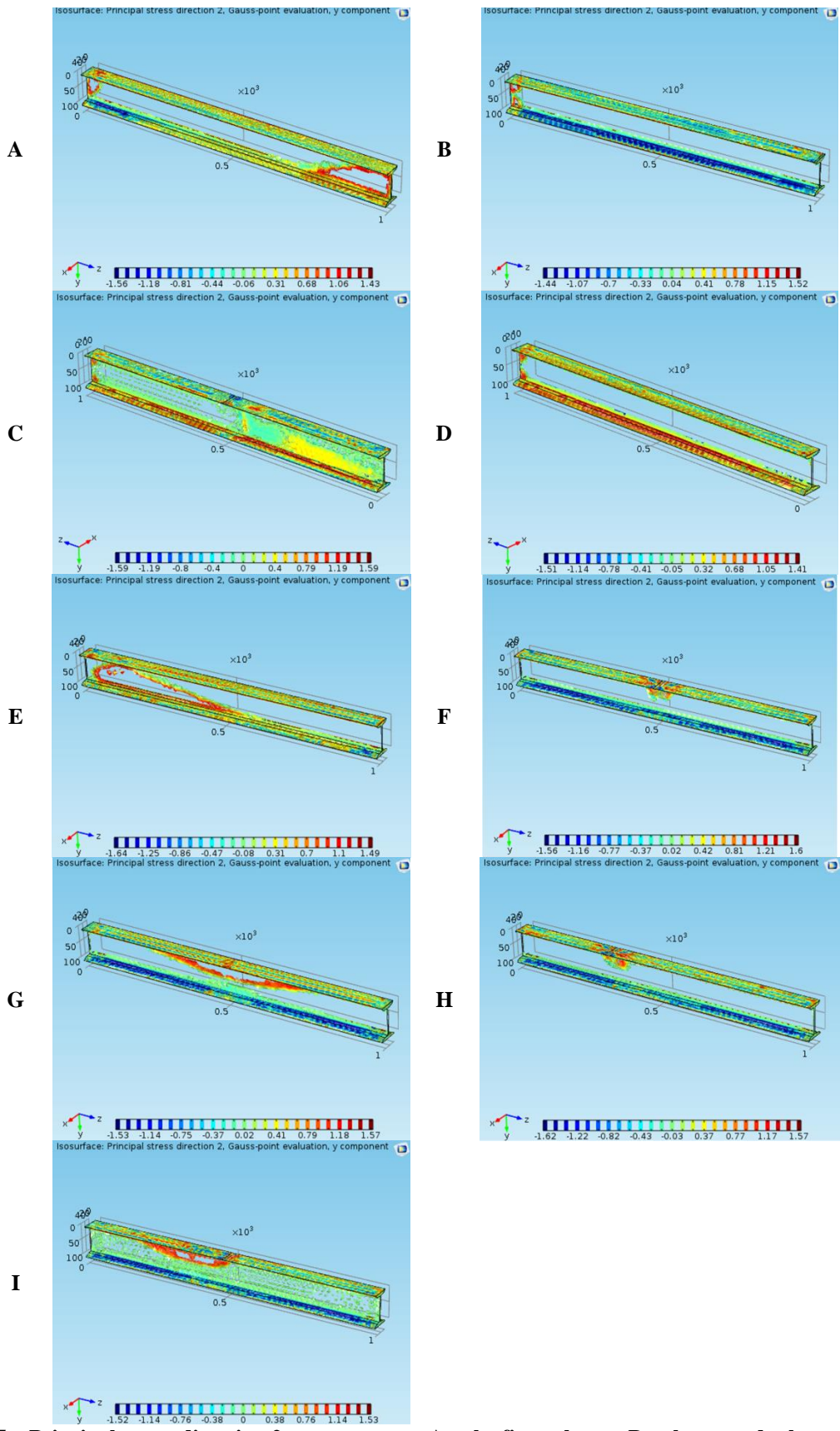


Figure 5 – Principal stress direction 2, y component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

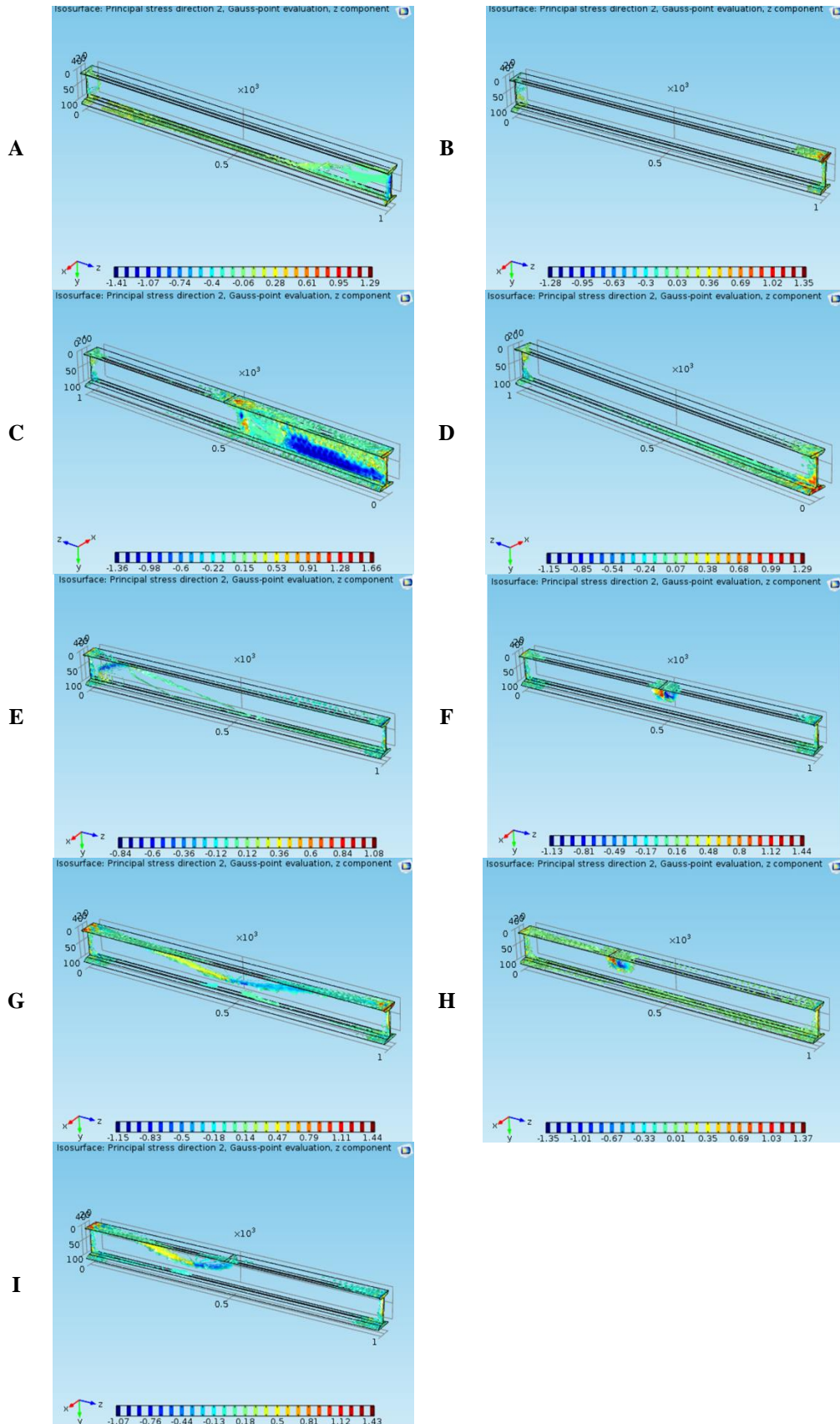


Figure 6 – Principal stress direction 2, z component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

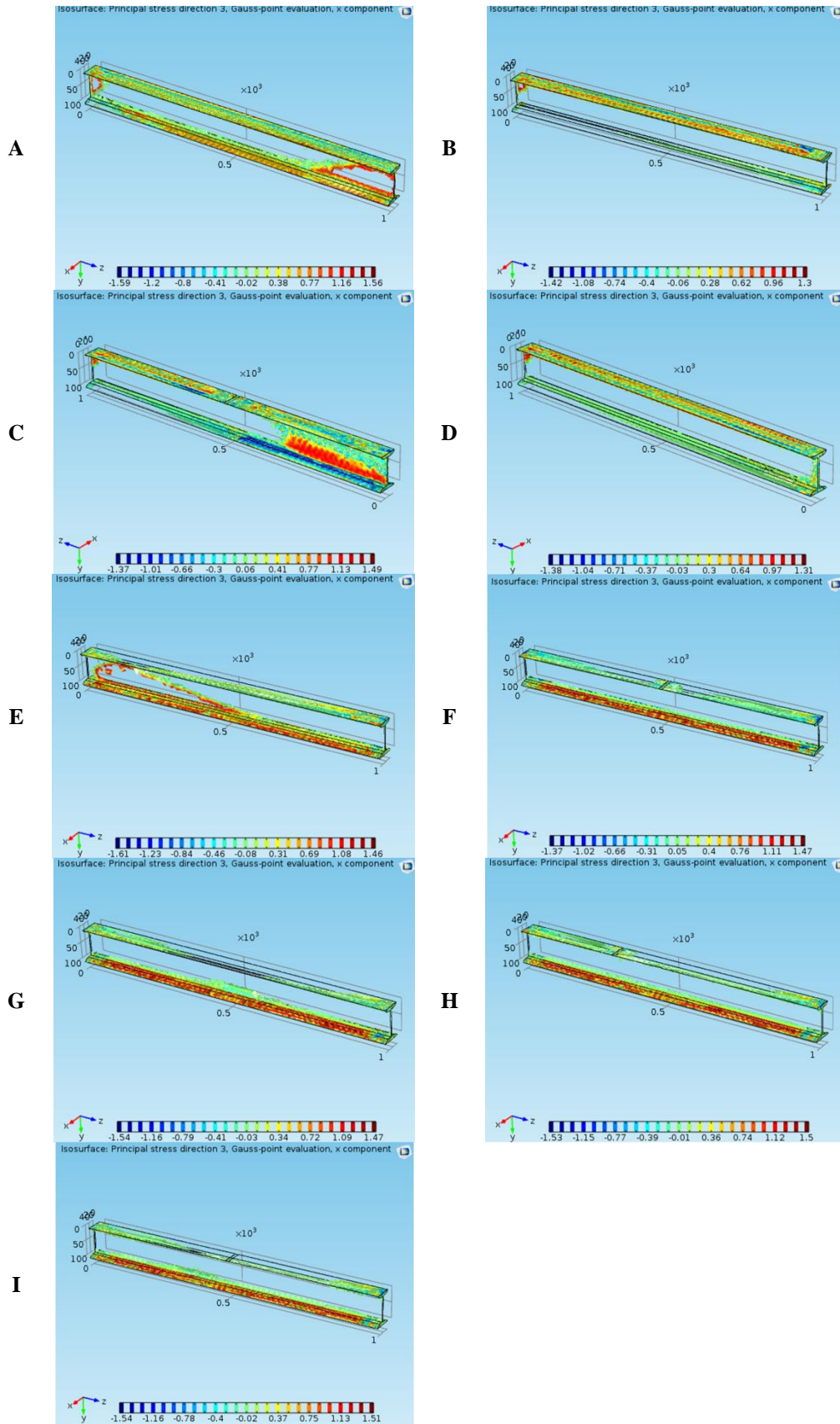


Figure 7 – Principal stress direction 3, x component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

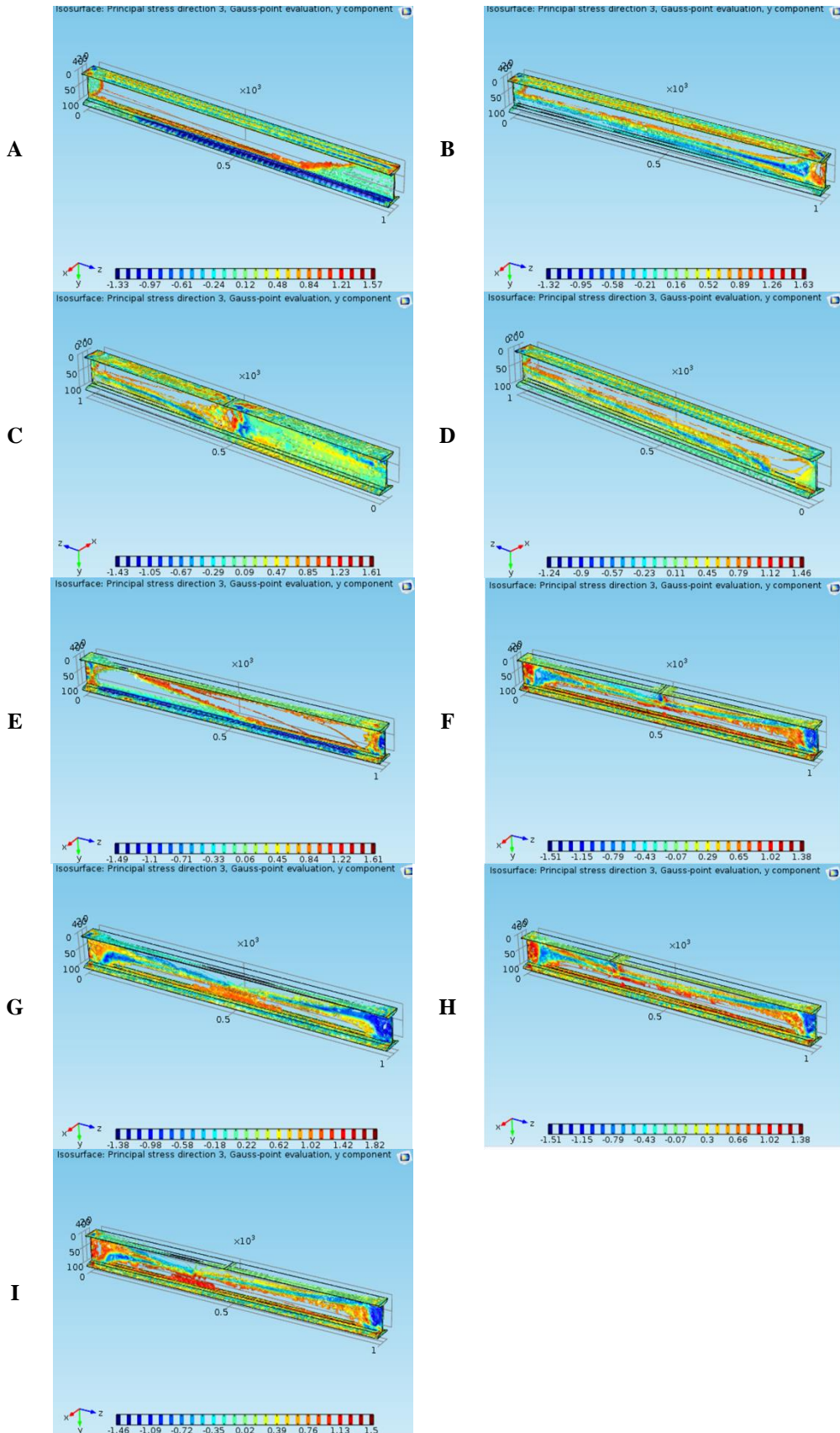


Figure 8 – Principal stress direction 3, y component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

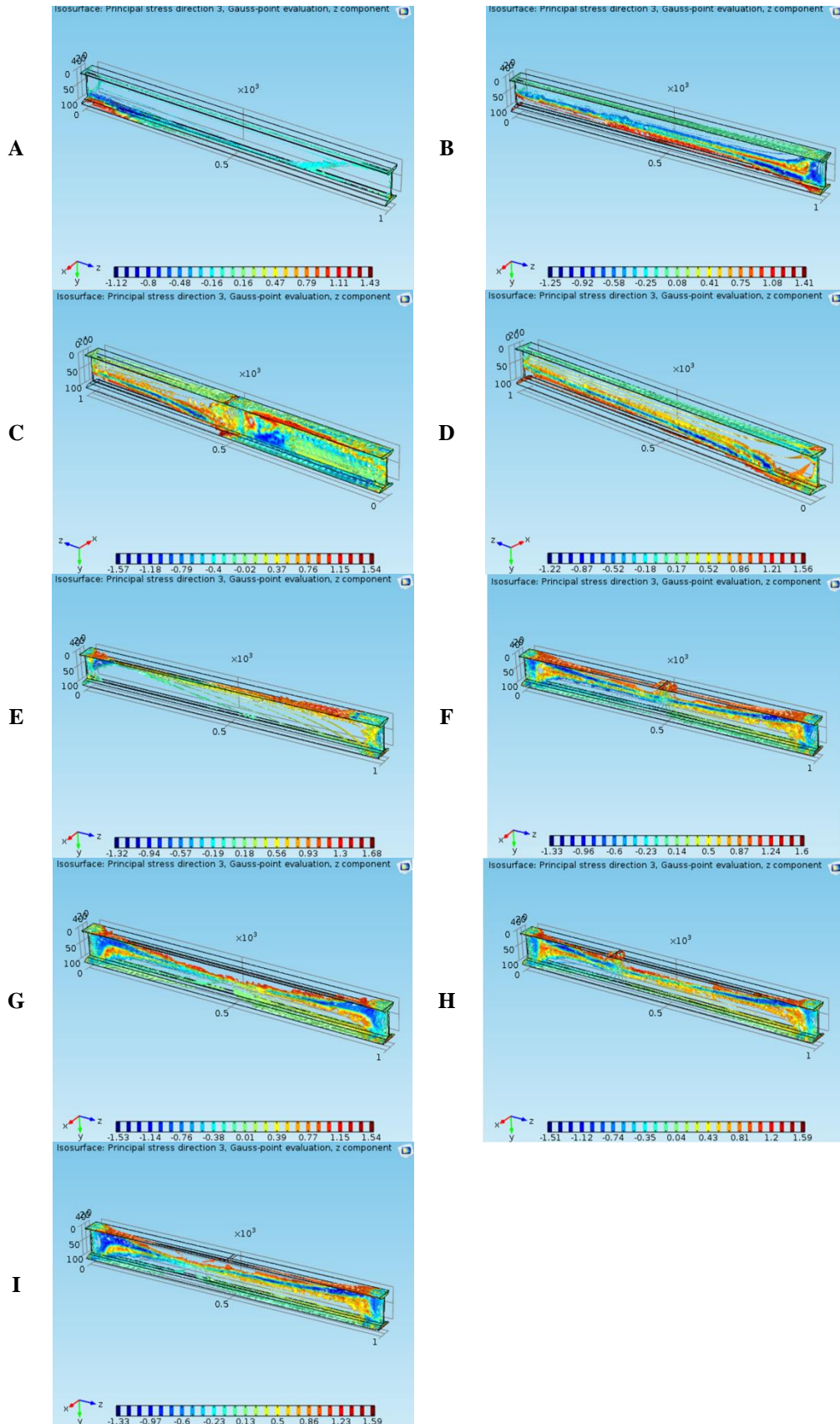


Figure 9 – Principal stress direction 3, z component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

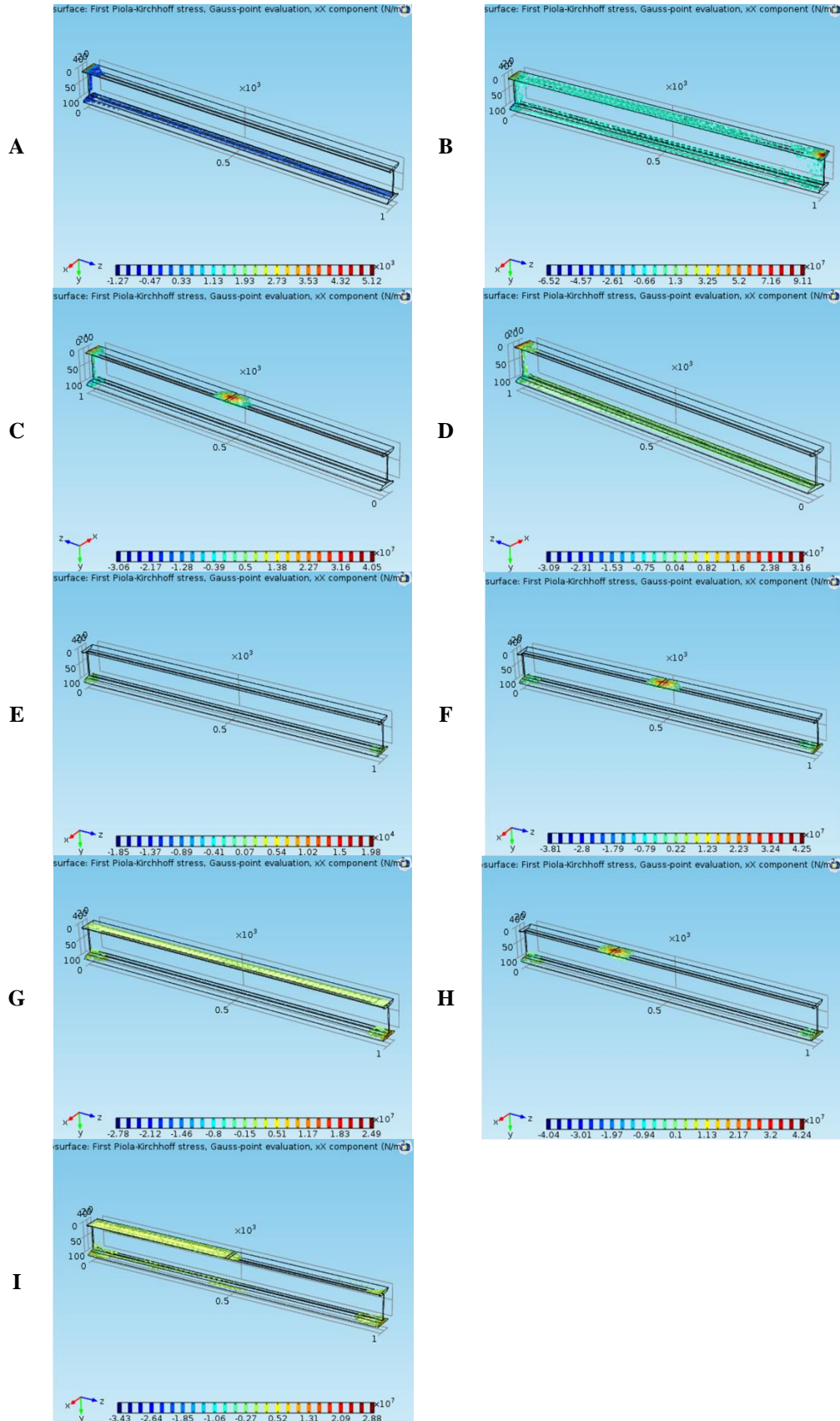


Figure 10 – First Piola-Kirchhoff stress, xX component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

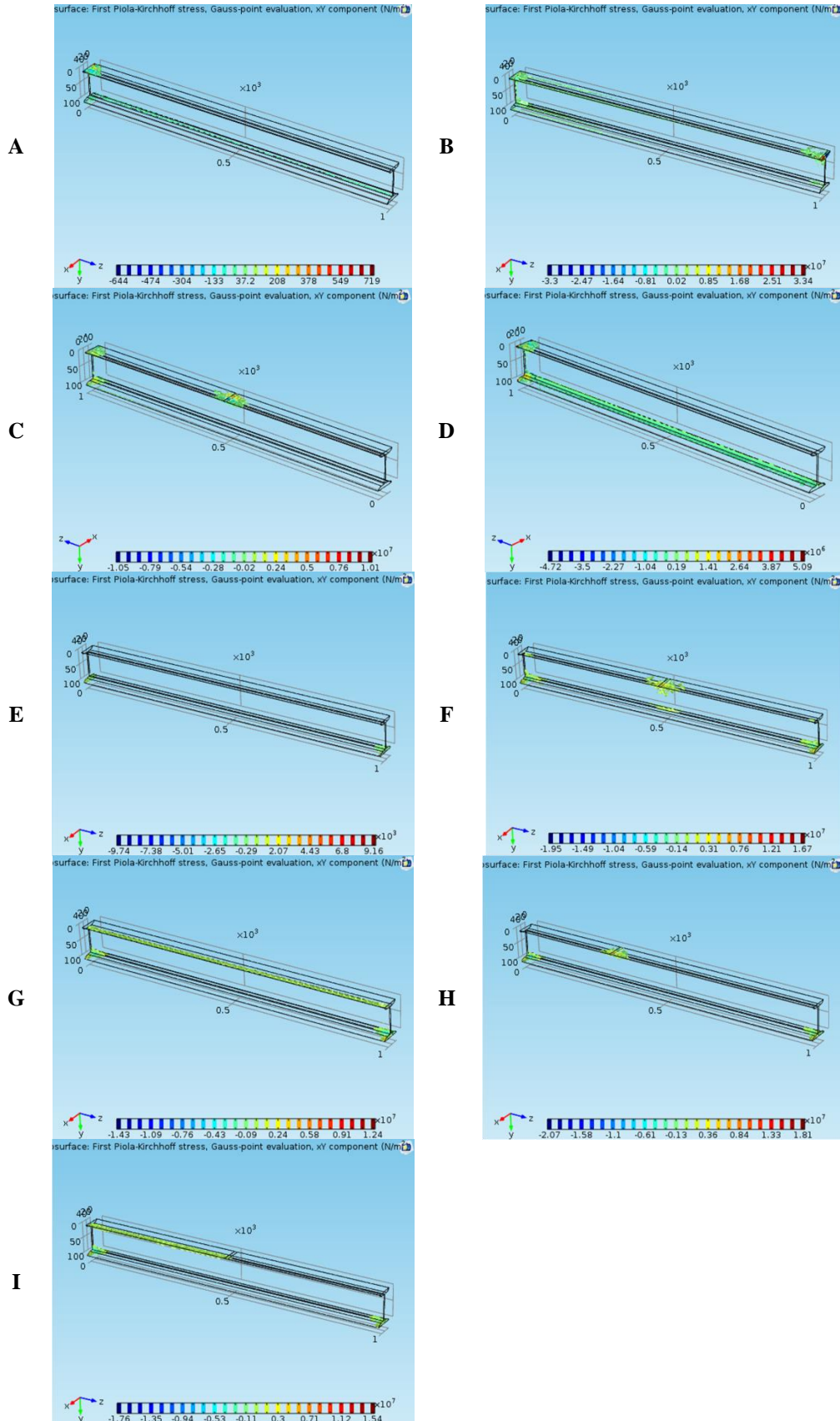


Figure 11 – First Piola-Kirchhoff stress, xY component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

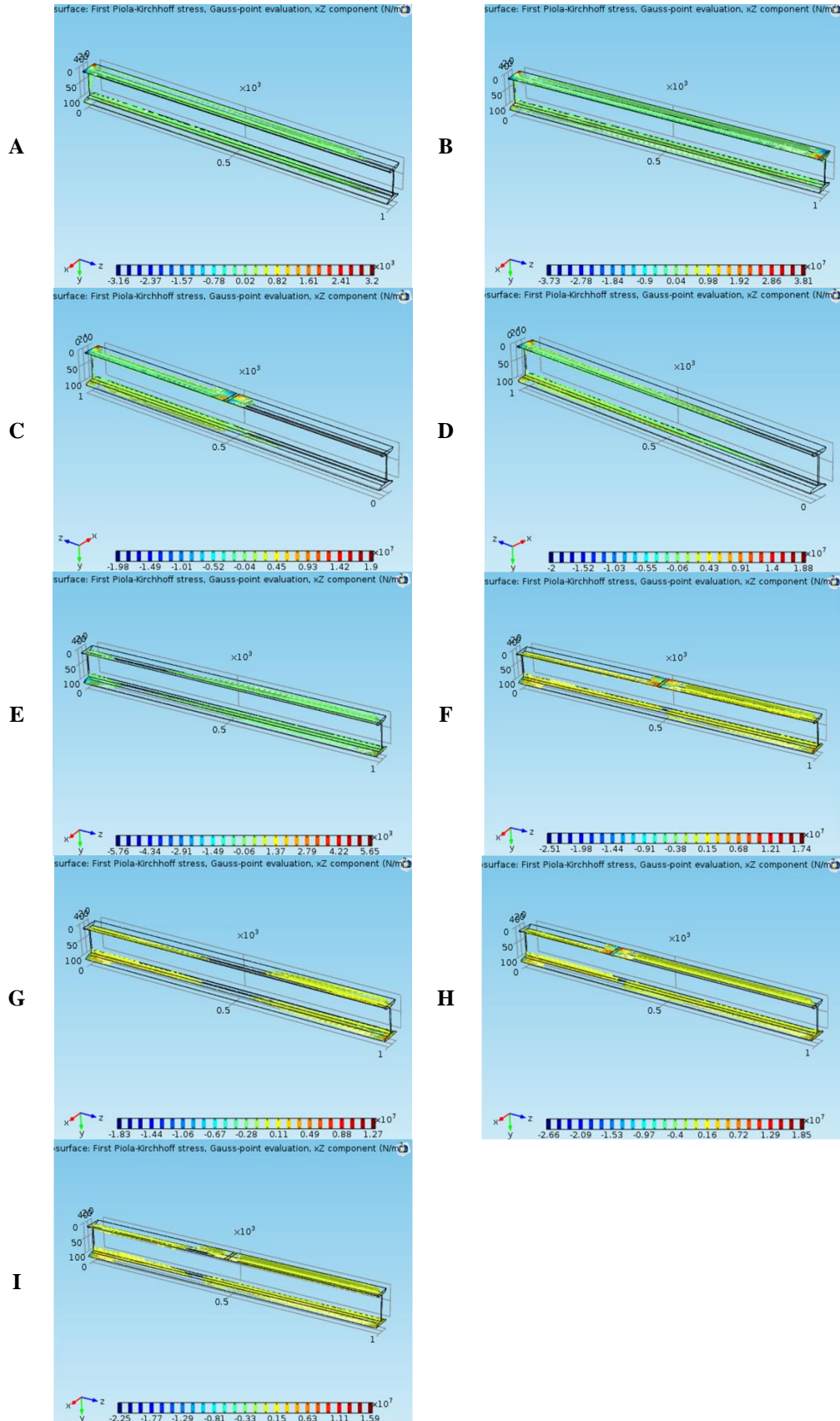


Figure 12 – First Piola-Kirchhoff stress, xZ component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

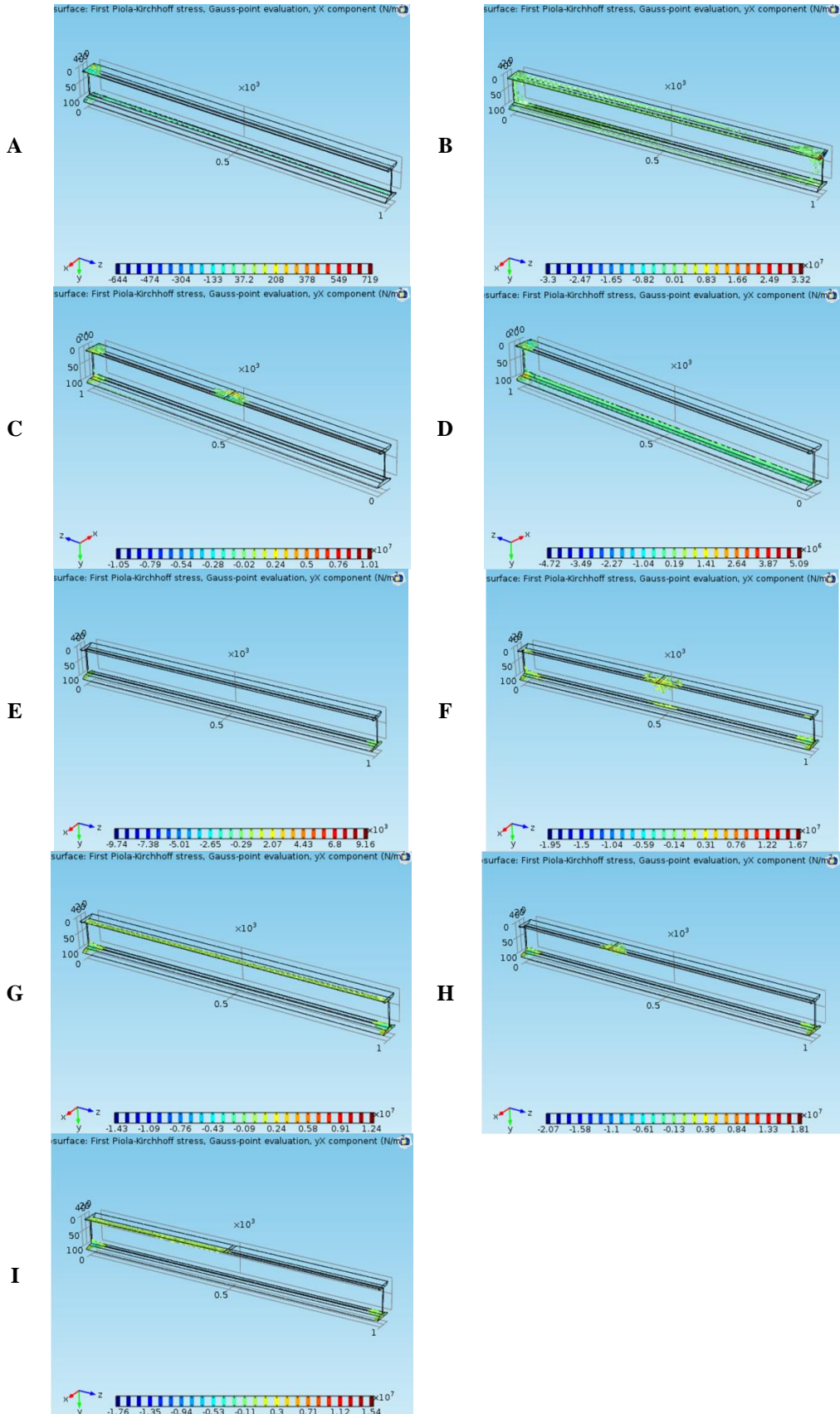


Figure 13 – First Piola-Kirchhoff stress, yX component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIIHU (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

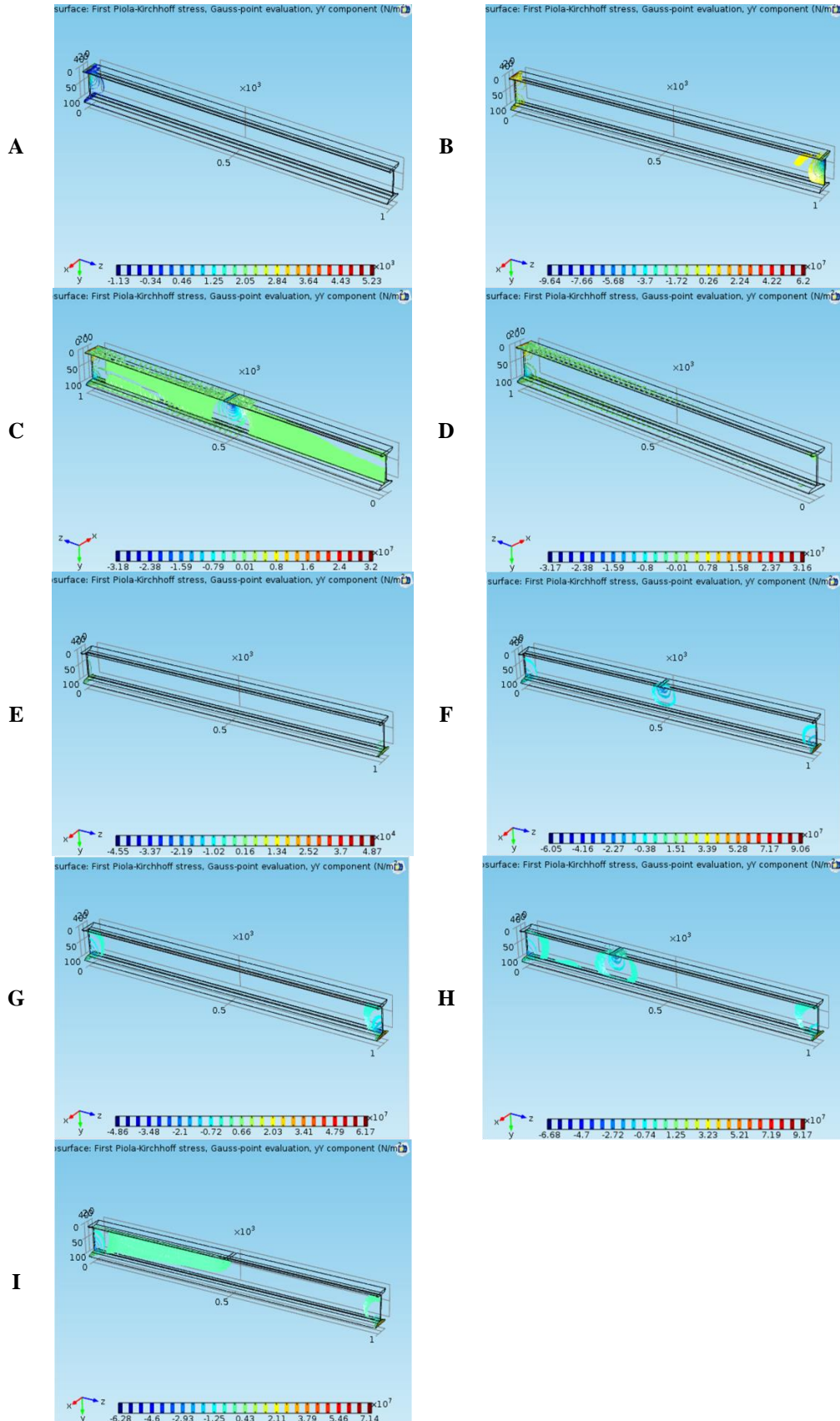


Figure 14 – First Piola-Kirchhoff stress, yY component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHII (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

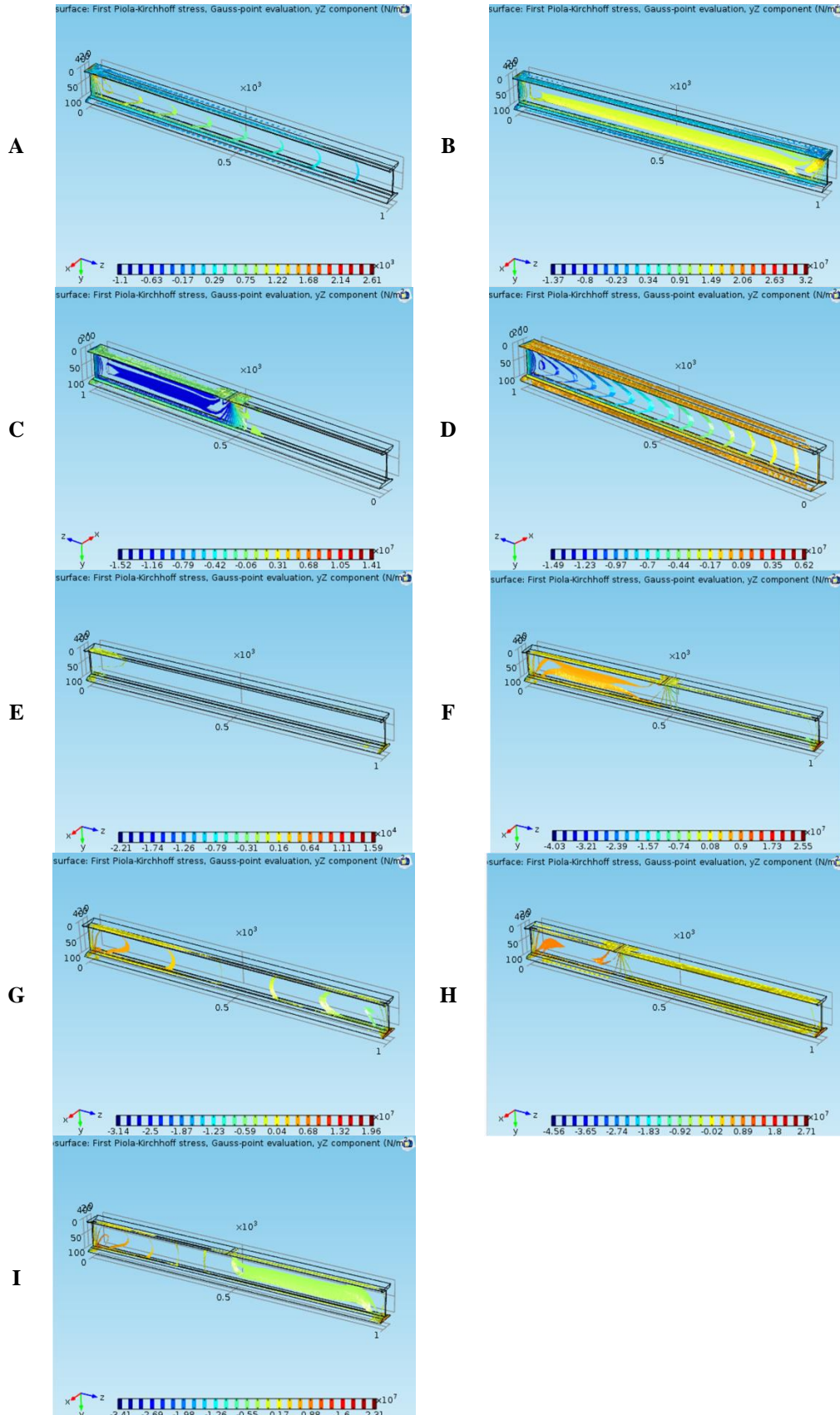


Figure 15 – First Piola-Kirchhoff stress, yZ component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

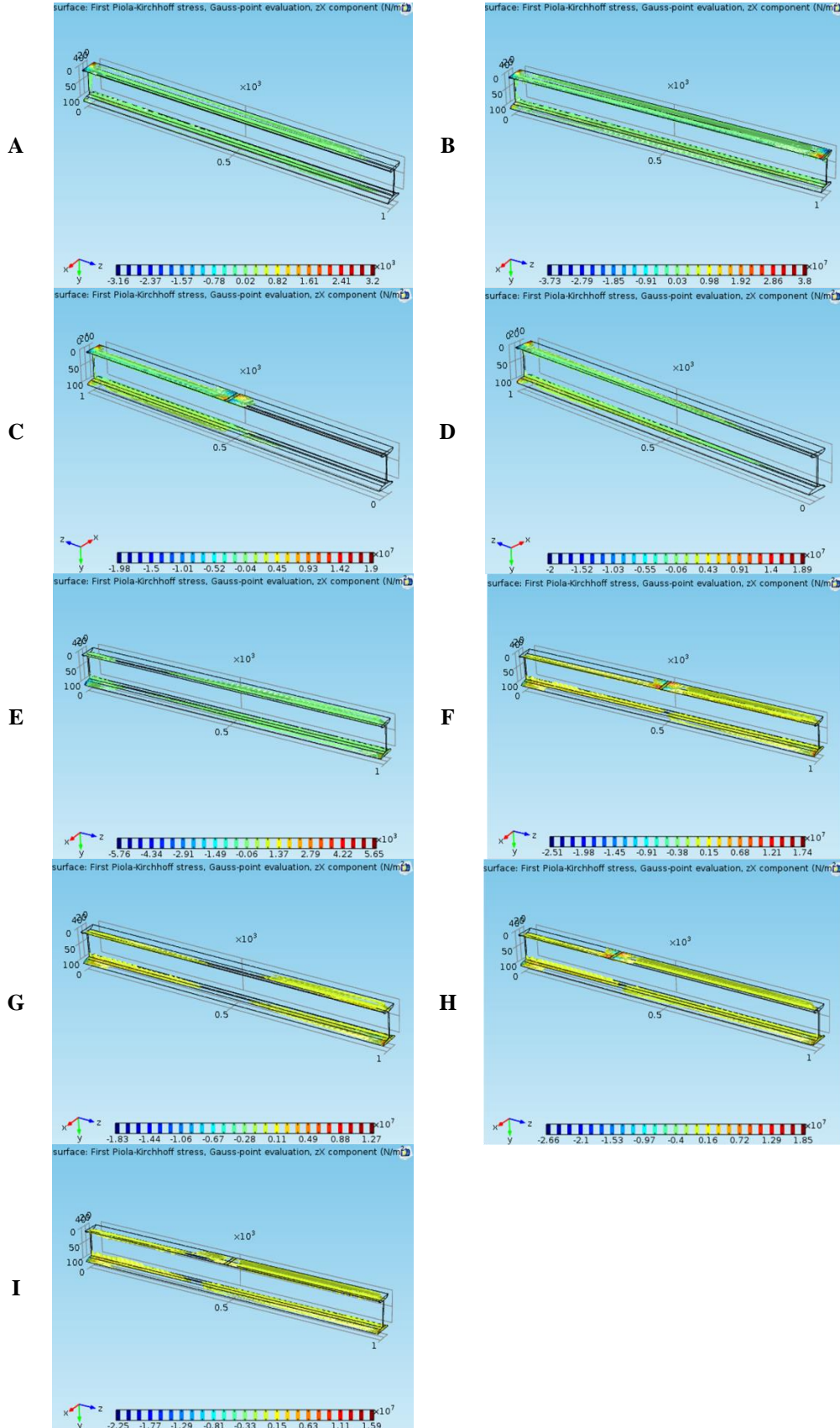


Figure 16 – First Piola-Kirchhoff stress, zX component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

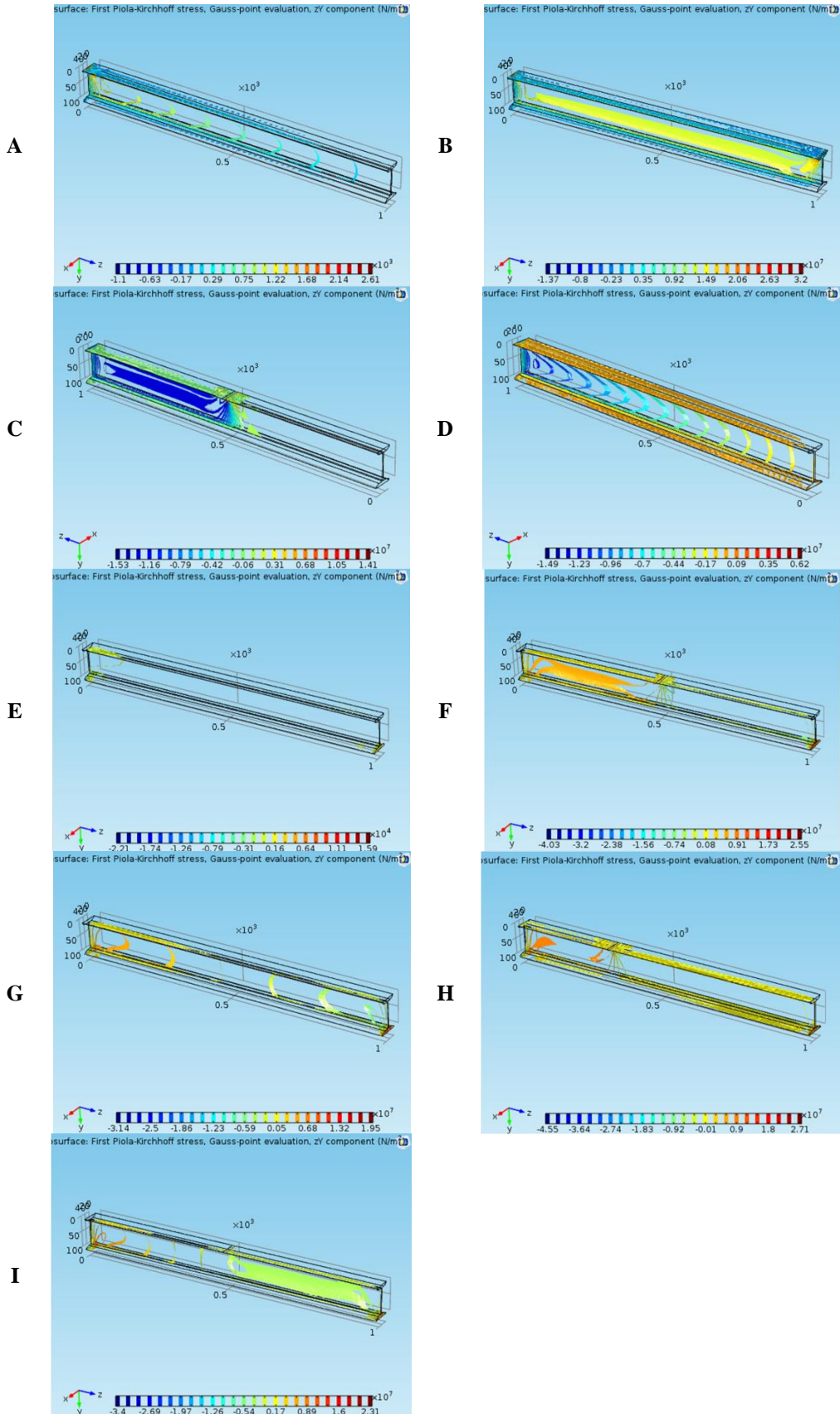


Figure 17 – First Piola-Kirchhoff stress, zY component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

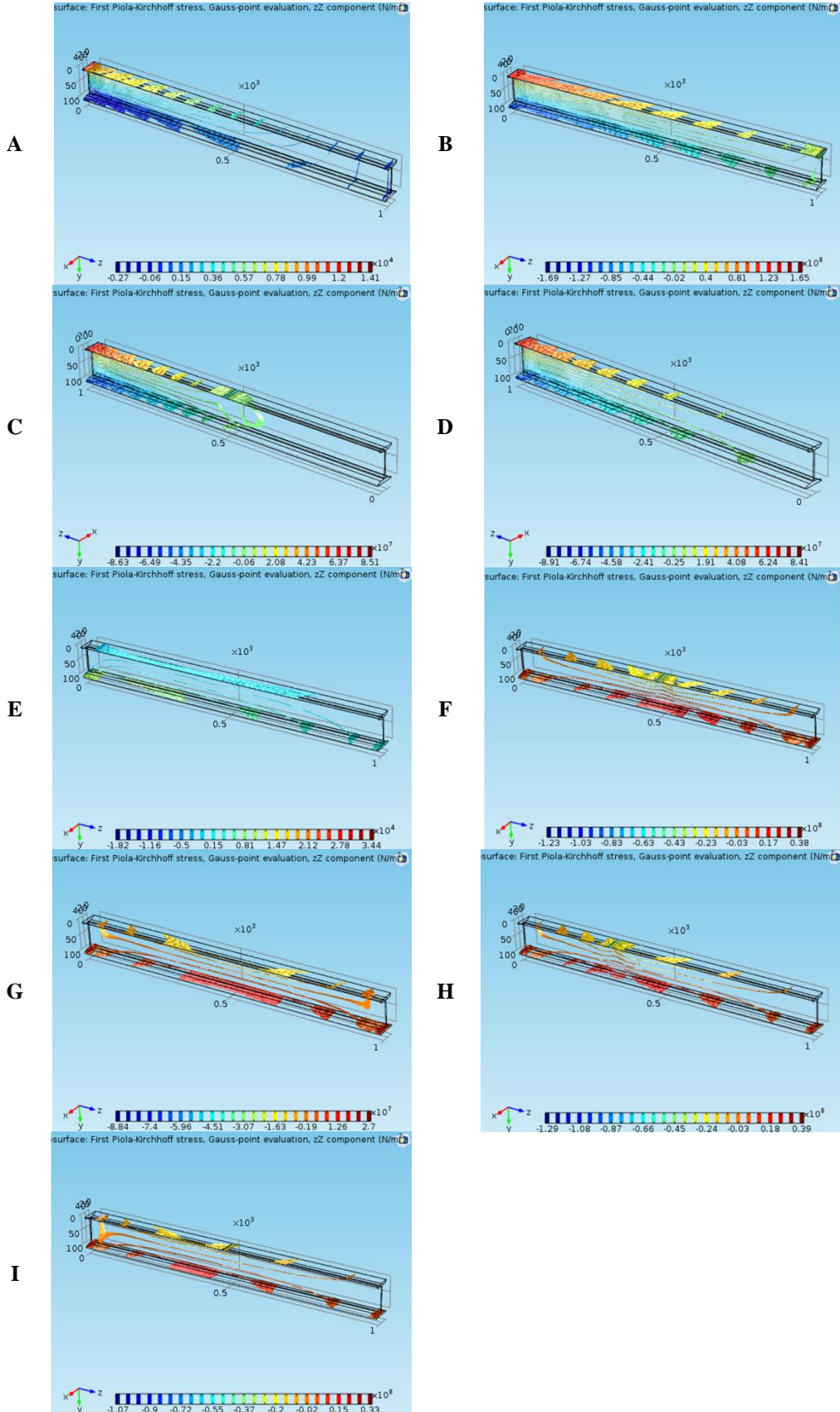


Figure 18 – First Piola-Kirchhoff stress, zZ component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

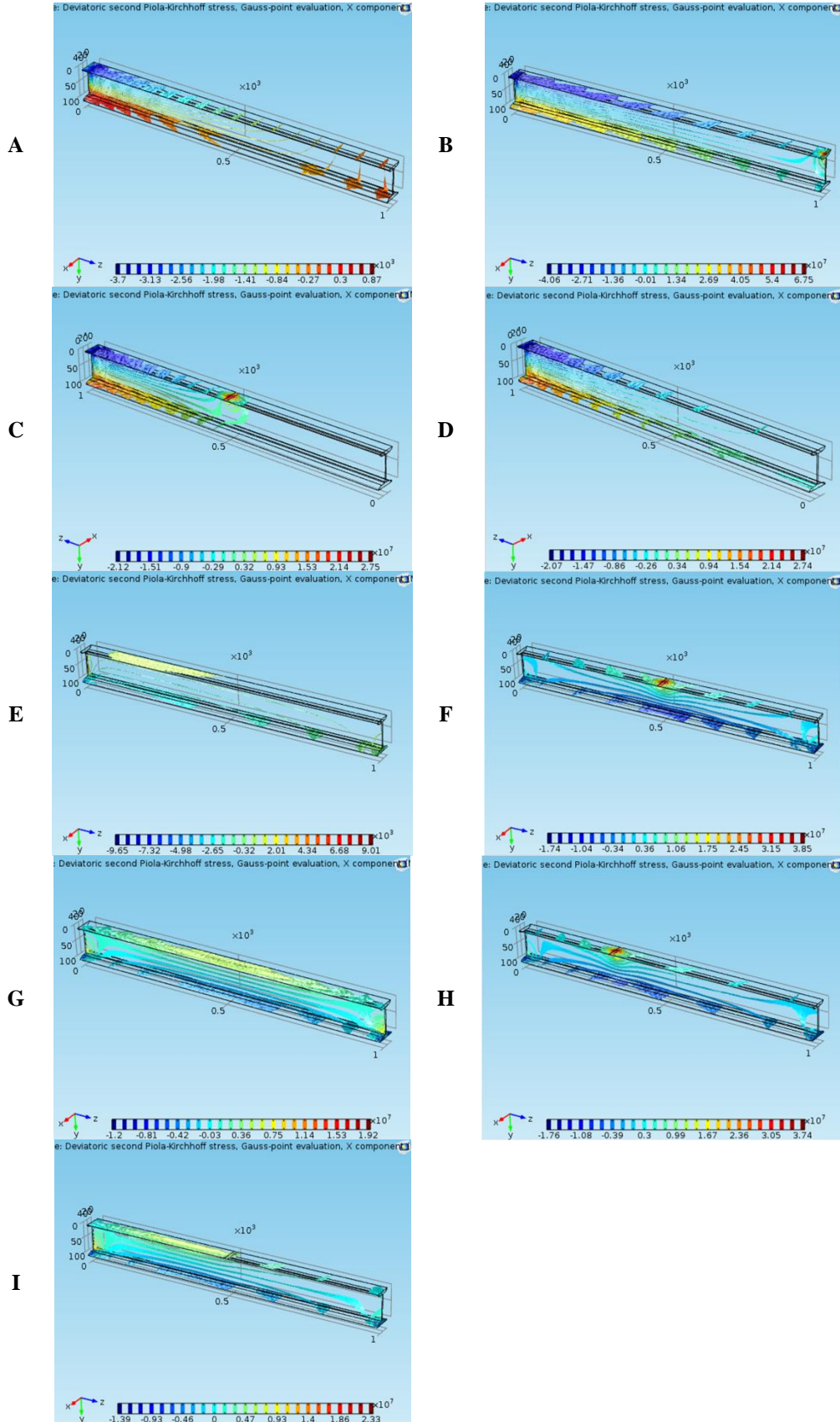


Figure 19 – Deviatoric second Piola-Kirchhoff stress, X component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

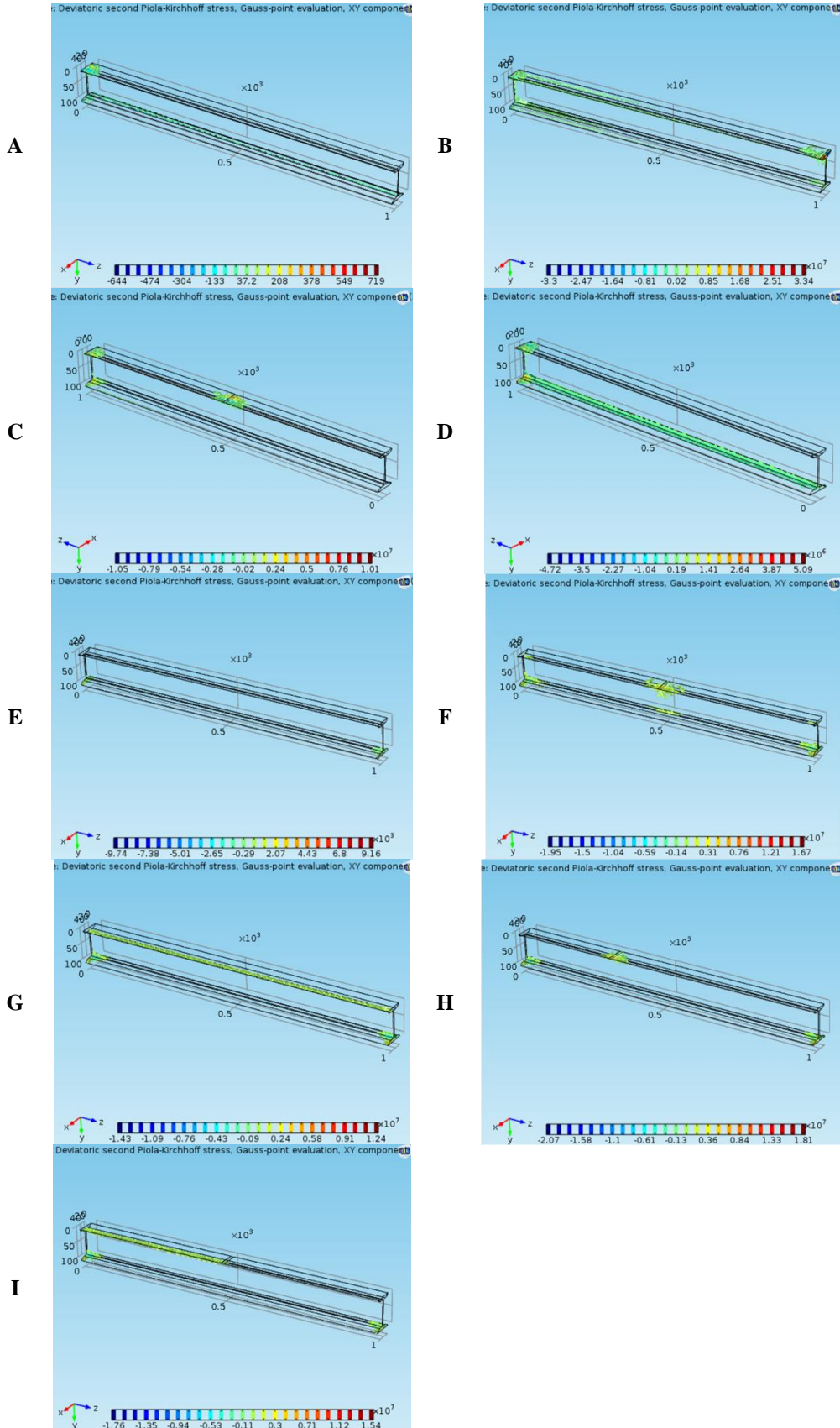


Figure 20 – Deviatoric second Piola-Kirchhoff stress, XY component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIIHJ (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

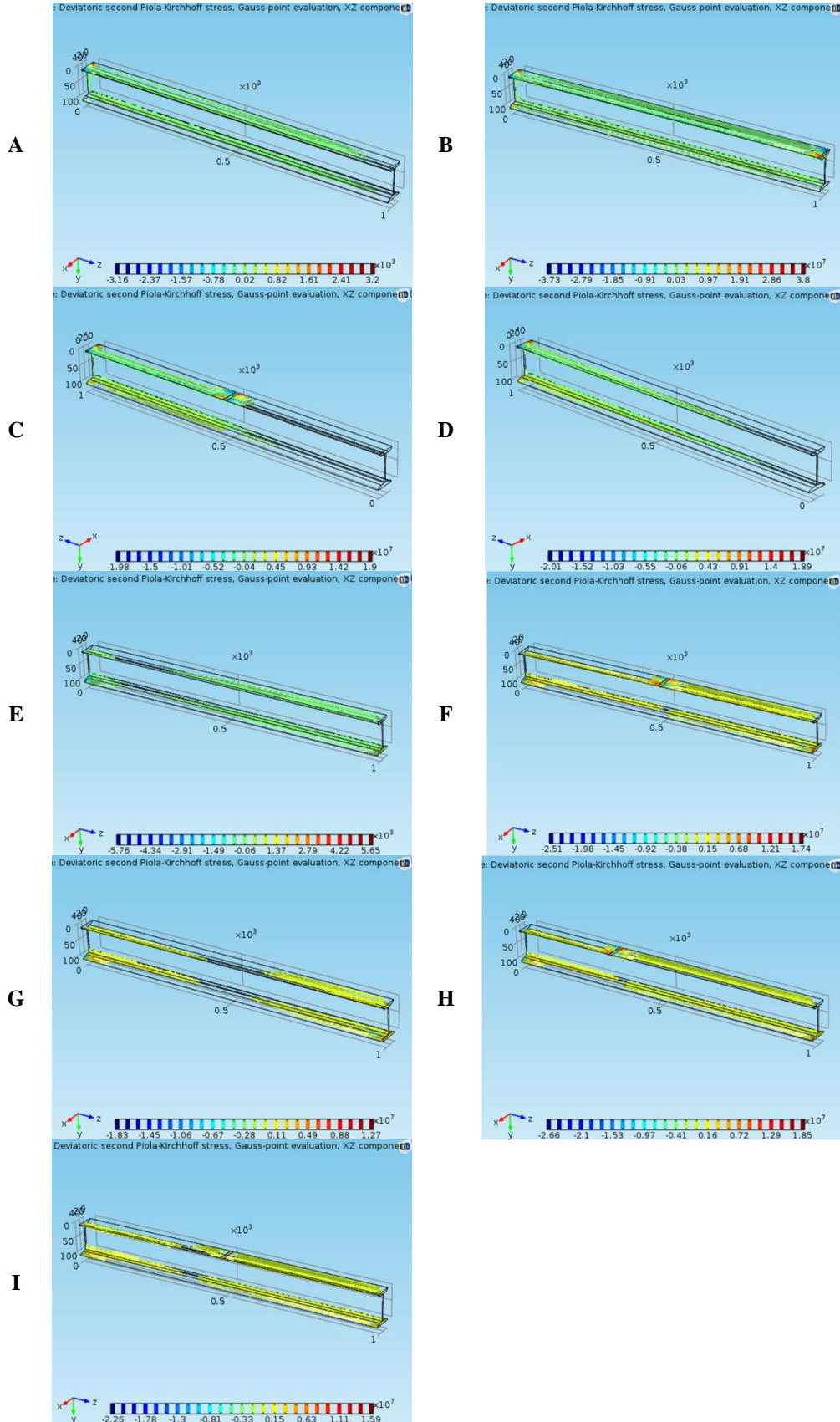


Figure 21 – Deviatoric second Piola-Kirchhoff stress, XZ component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

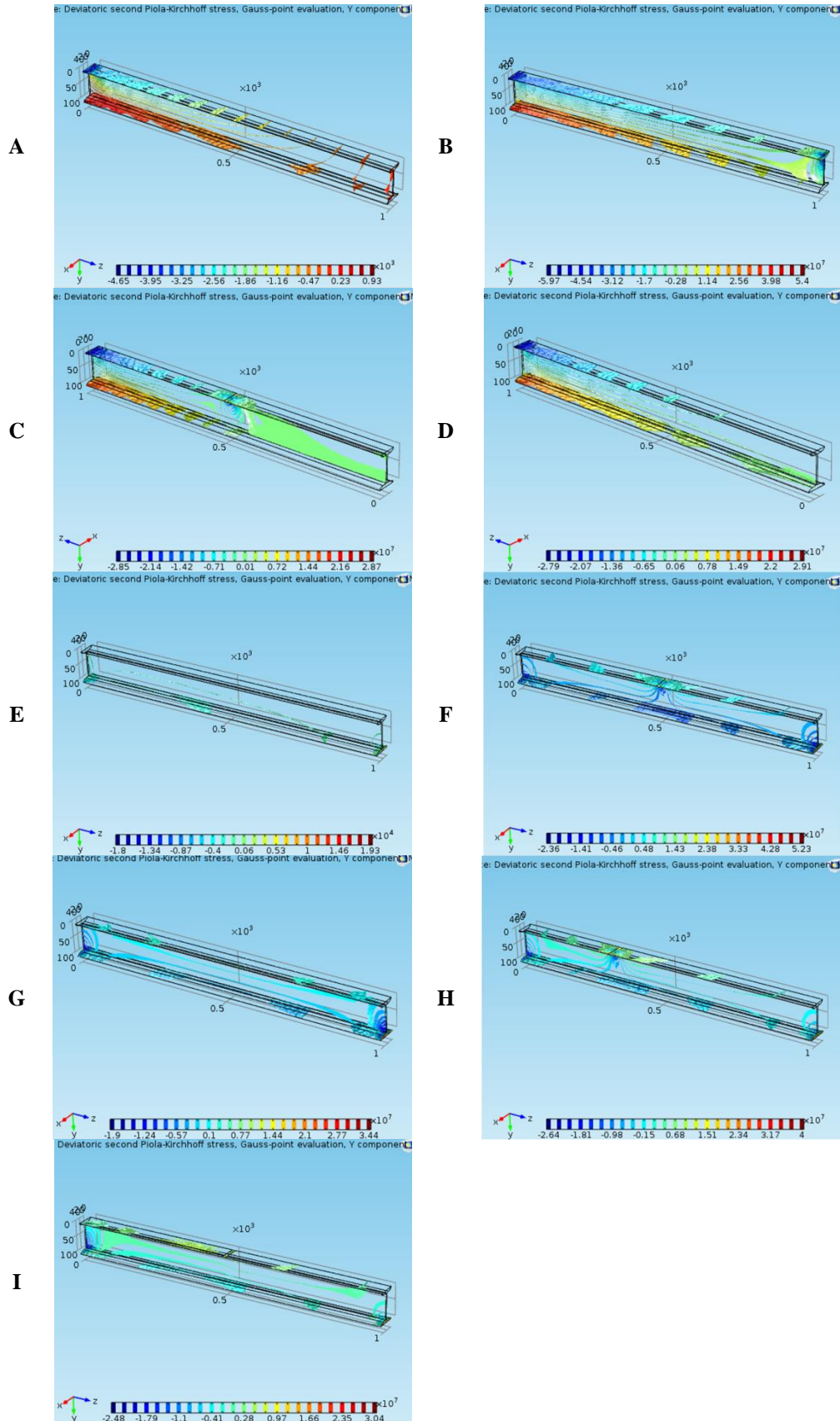


Figure 22 – Deviatoric second Piola-Kirchhoff stress, Y component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

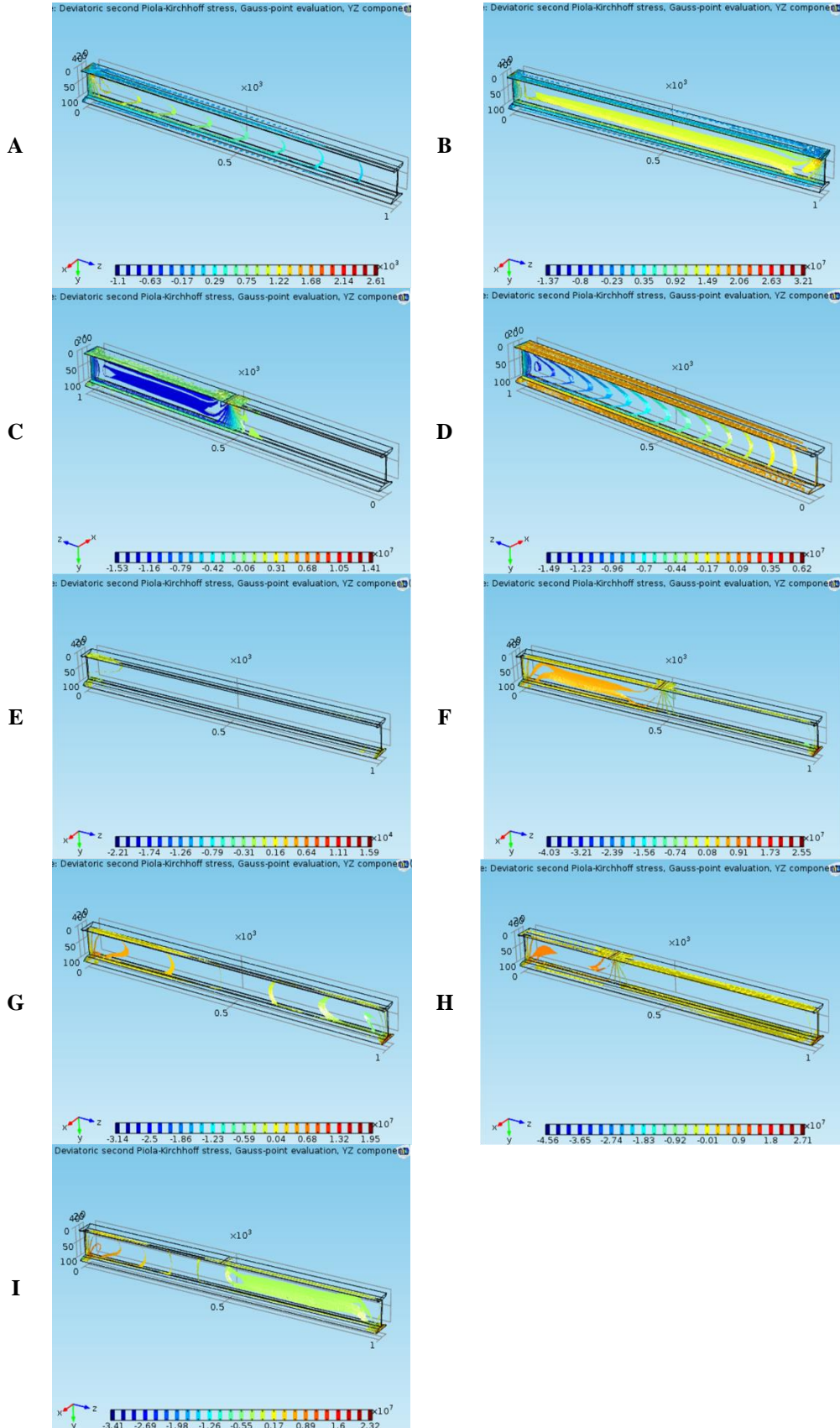


Figure 23 – Deviatoric second Piola-Kirchhoff stress, YZ component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

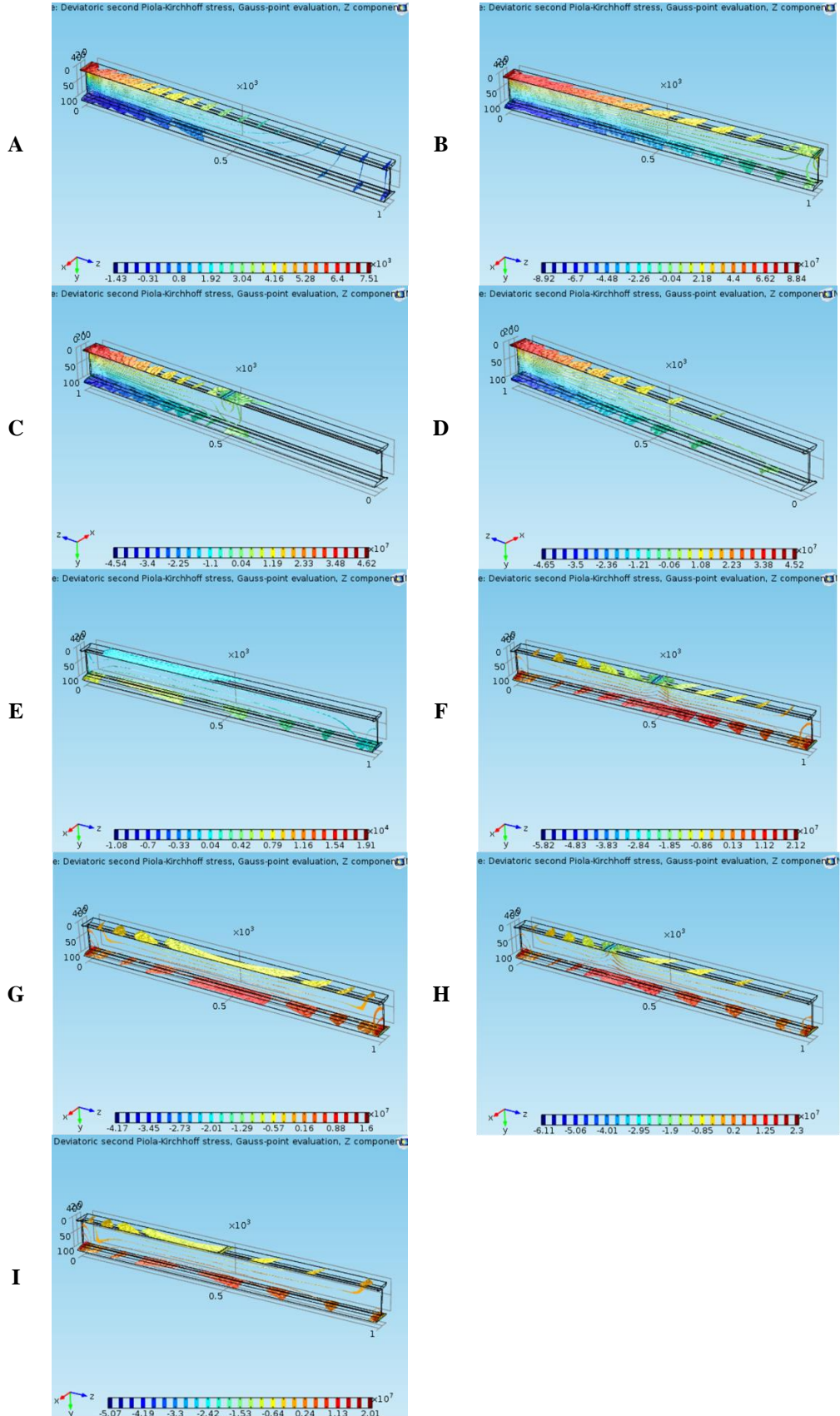


Figure 24 – Deviatoric second Piola-Kirchhoff stress, Z component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

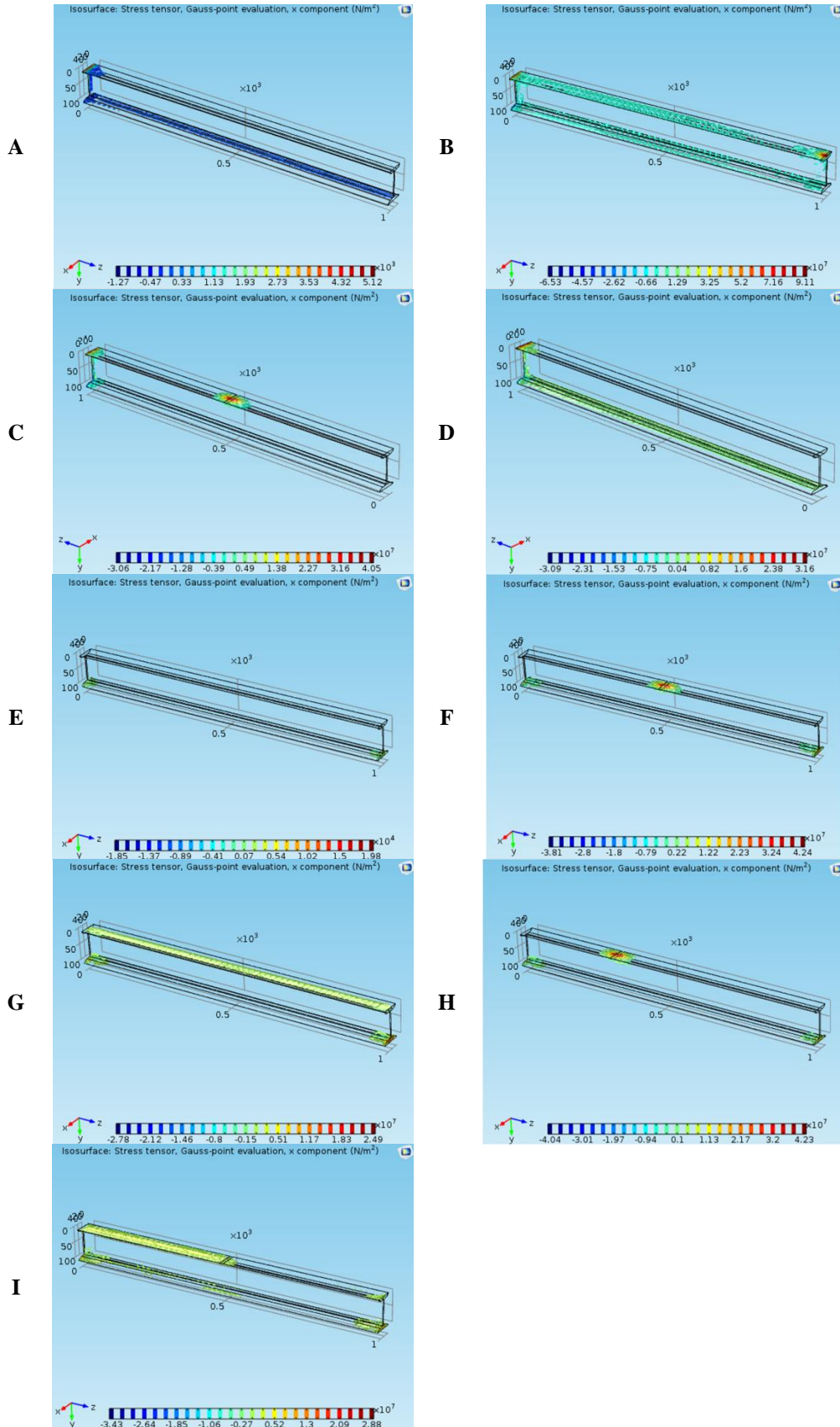


Figure 25 – Stress tensor, x component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIIHU (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

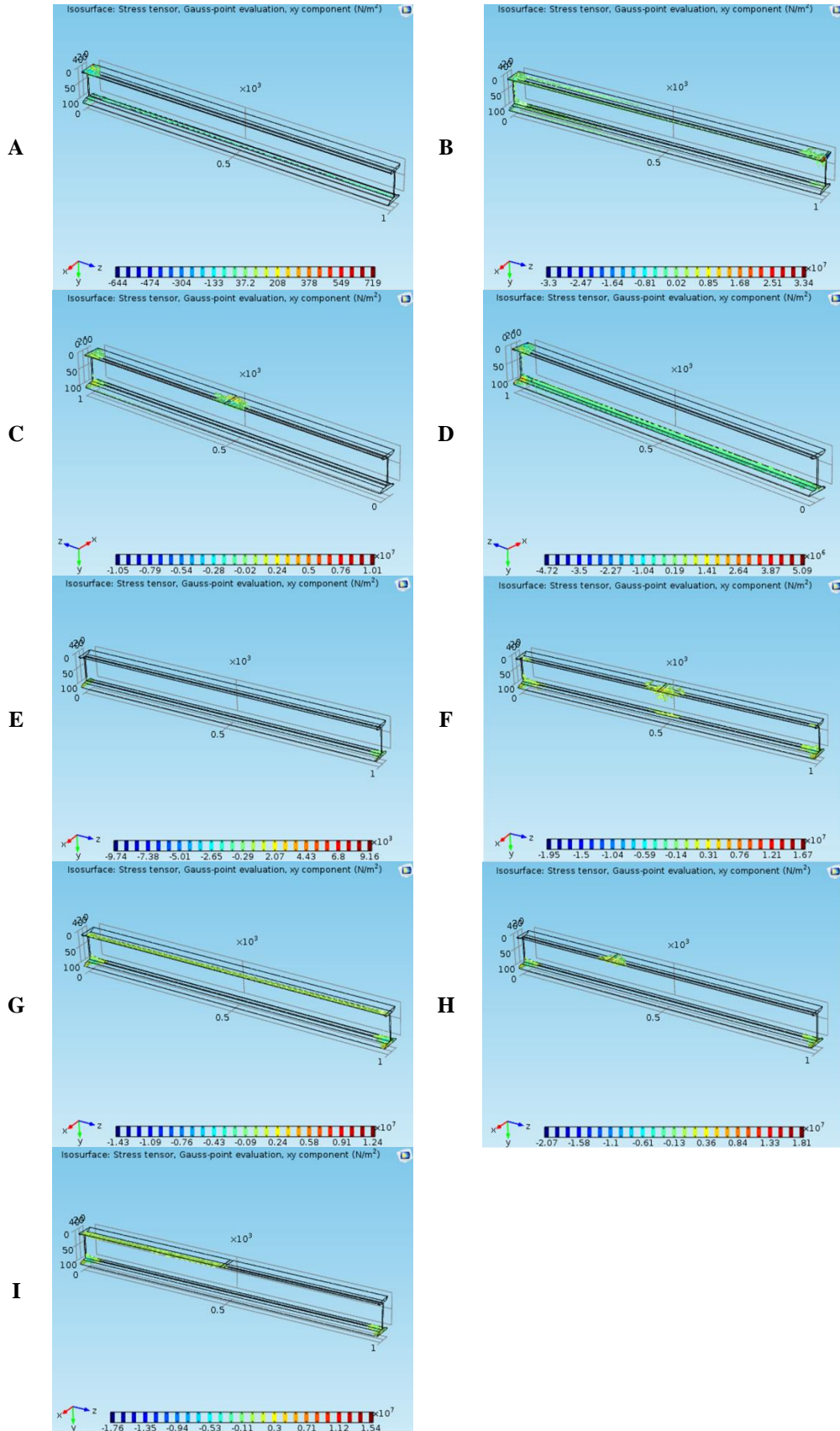


Figure 26 – Stress tensor, xy component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

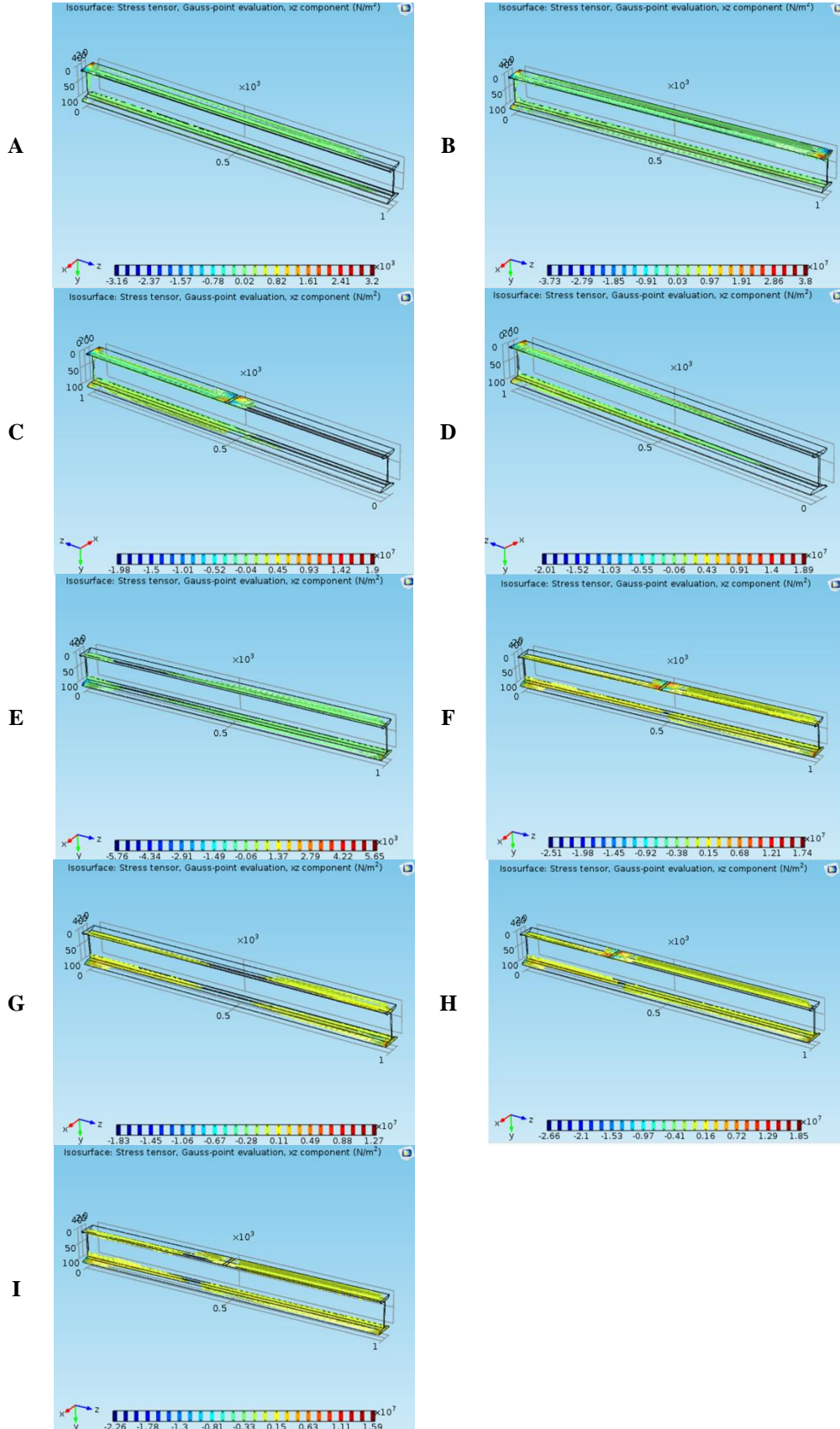


Figure 27 – Stress tensor, xz component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

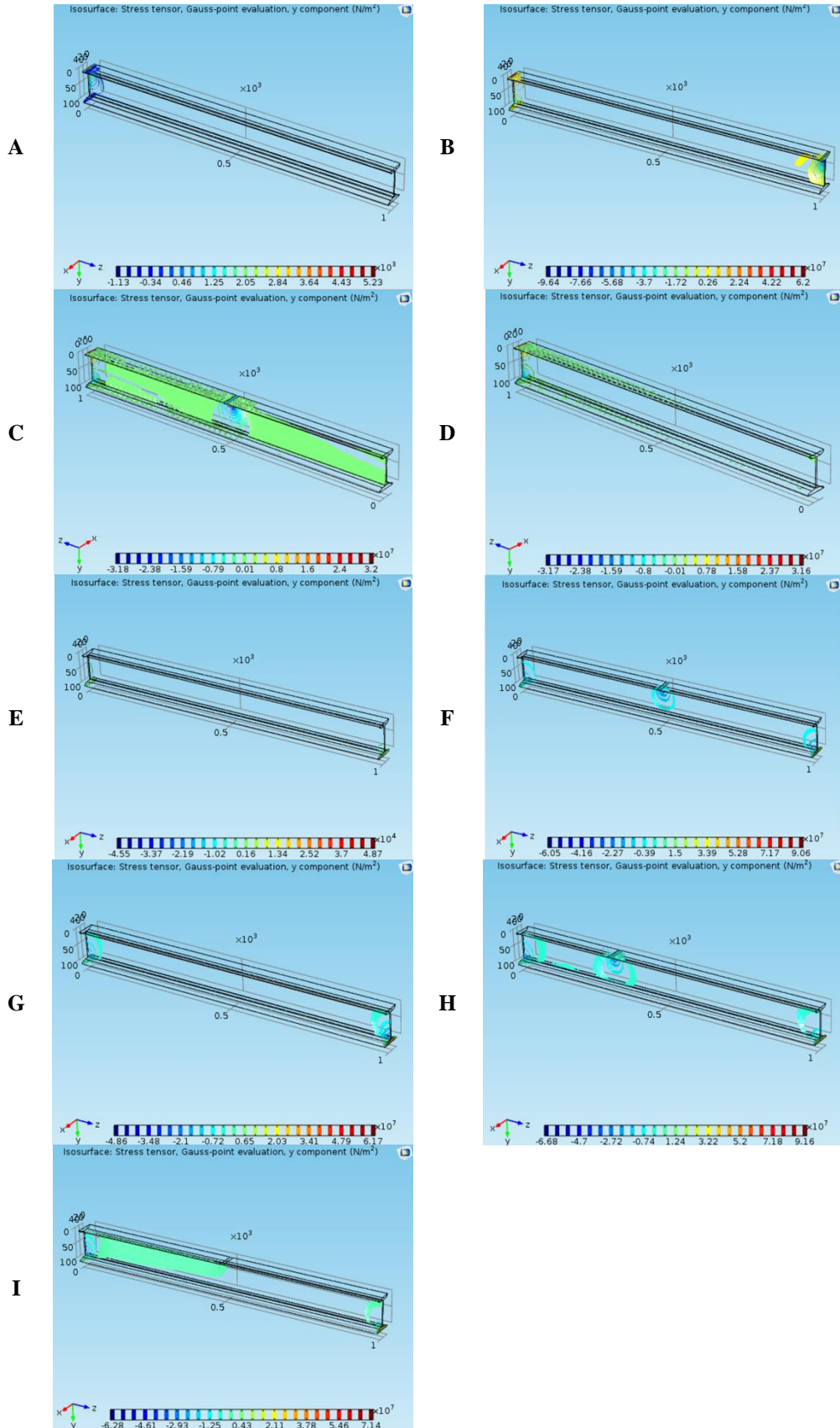


Figure 28 – Stress tensor, y component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

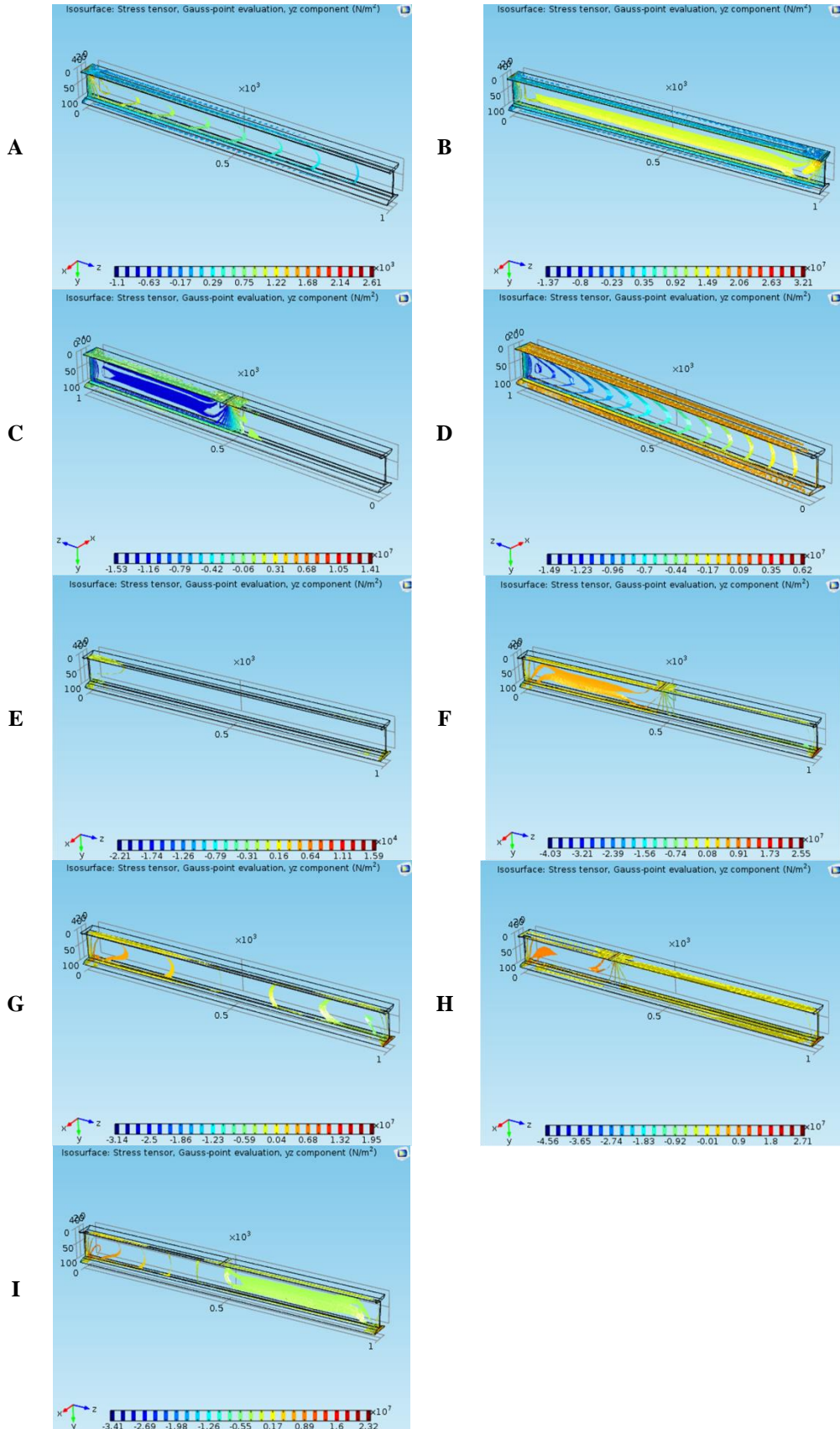


Figure 29 – Stress tensor, yz component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHII (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

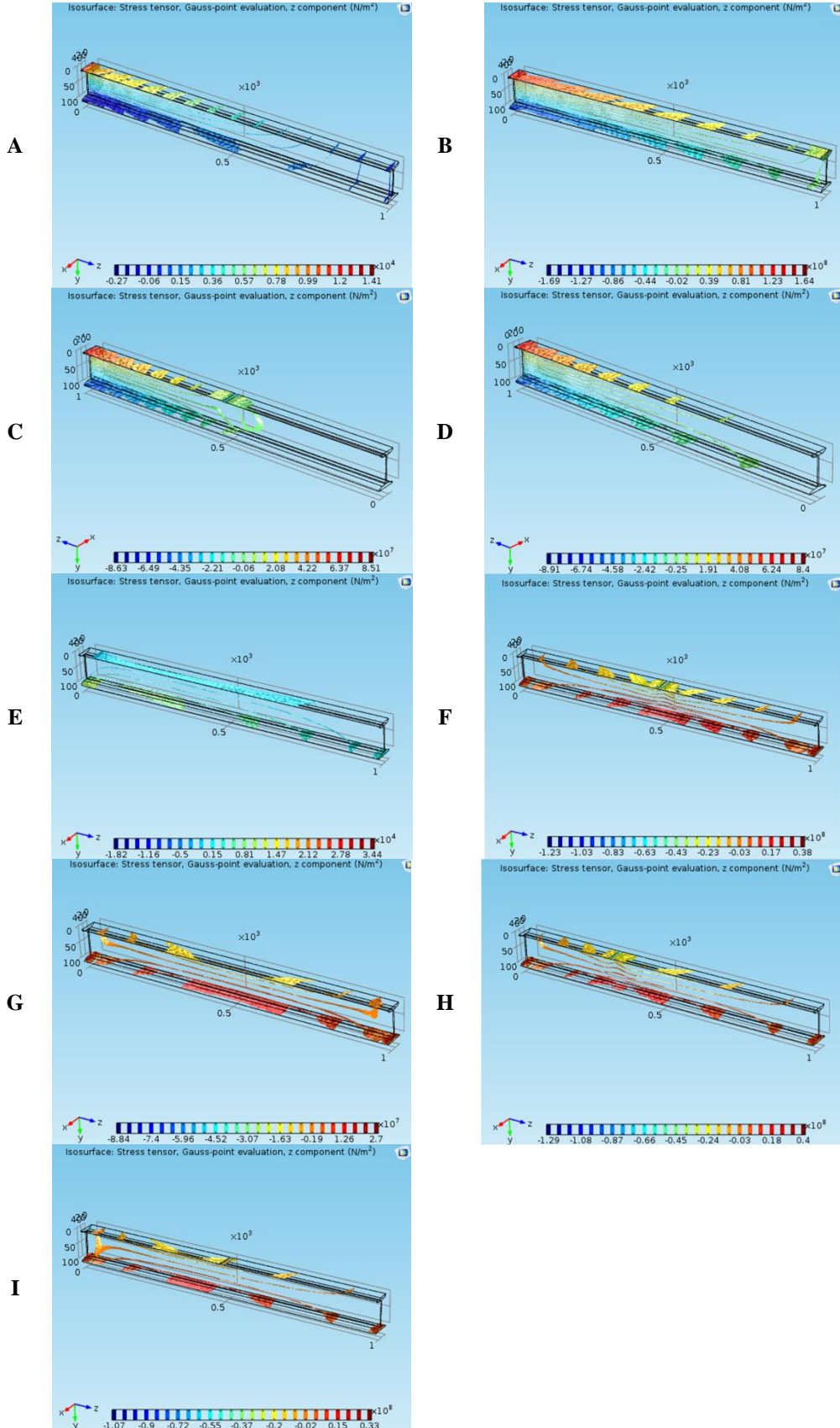


Figure 30 – Stress tensor, z component: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

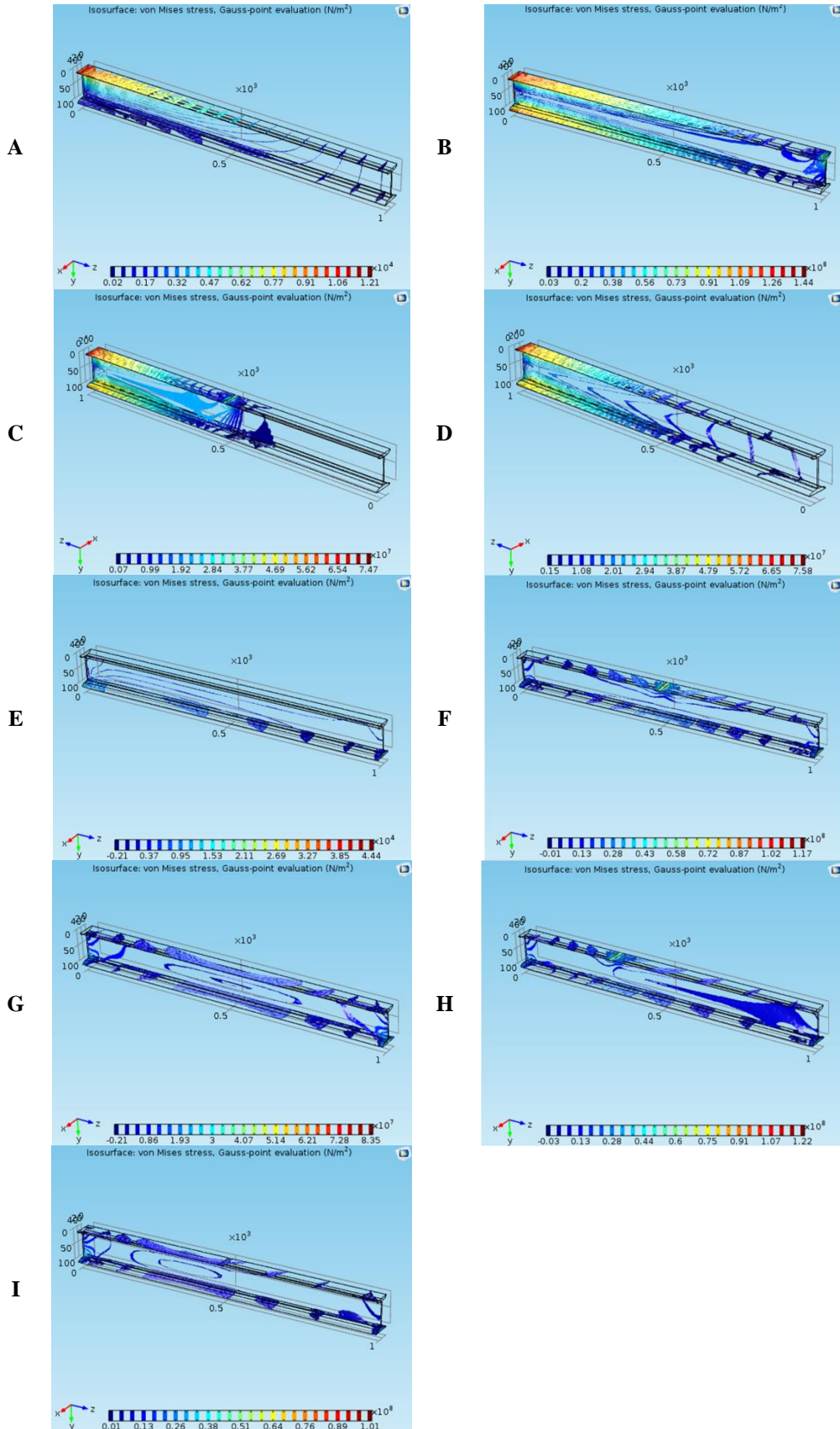


Figure 31 – Von Mises stress: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

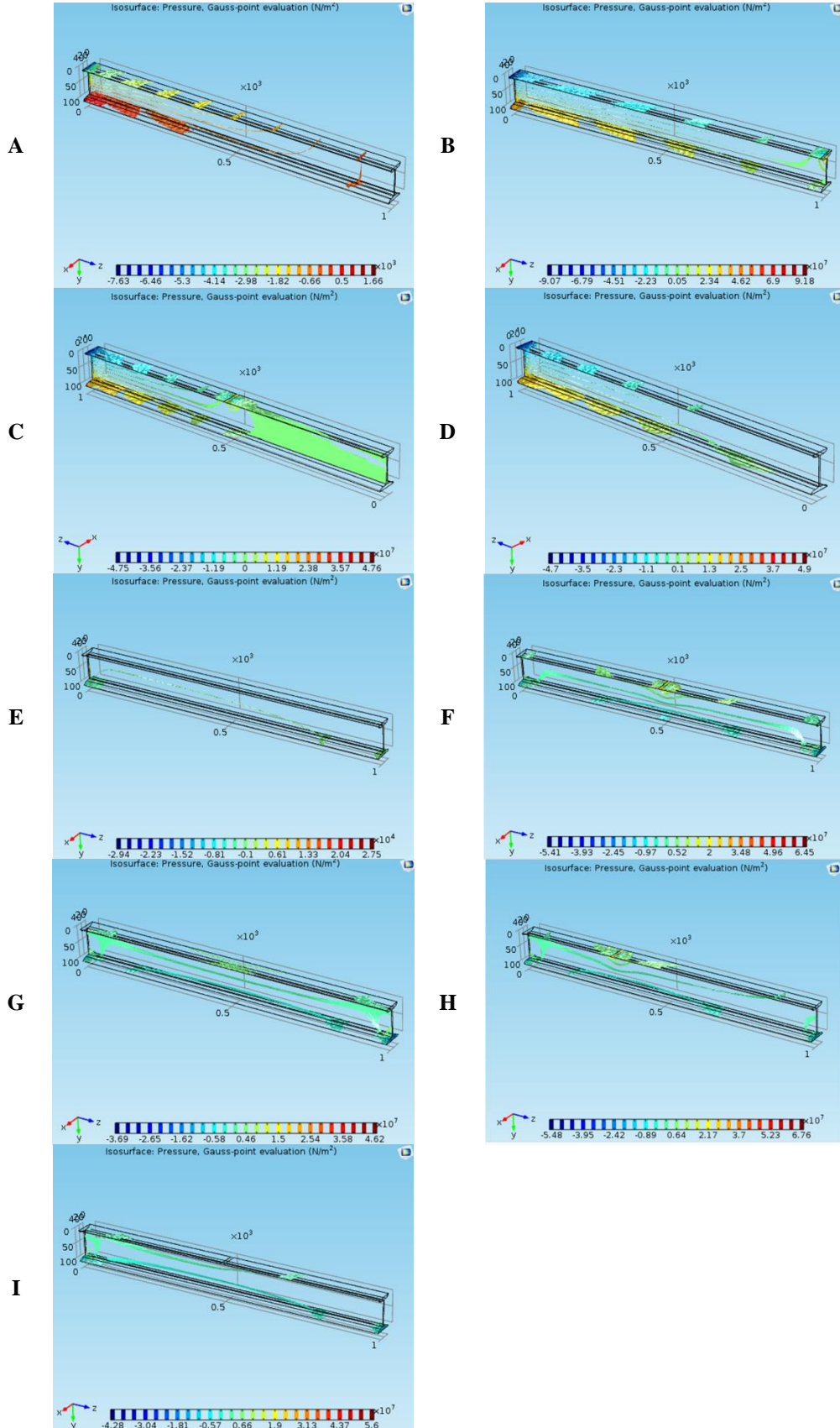


Figure 32 – Pressure: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

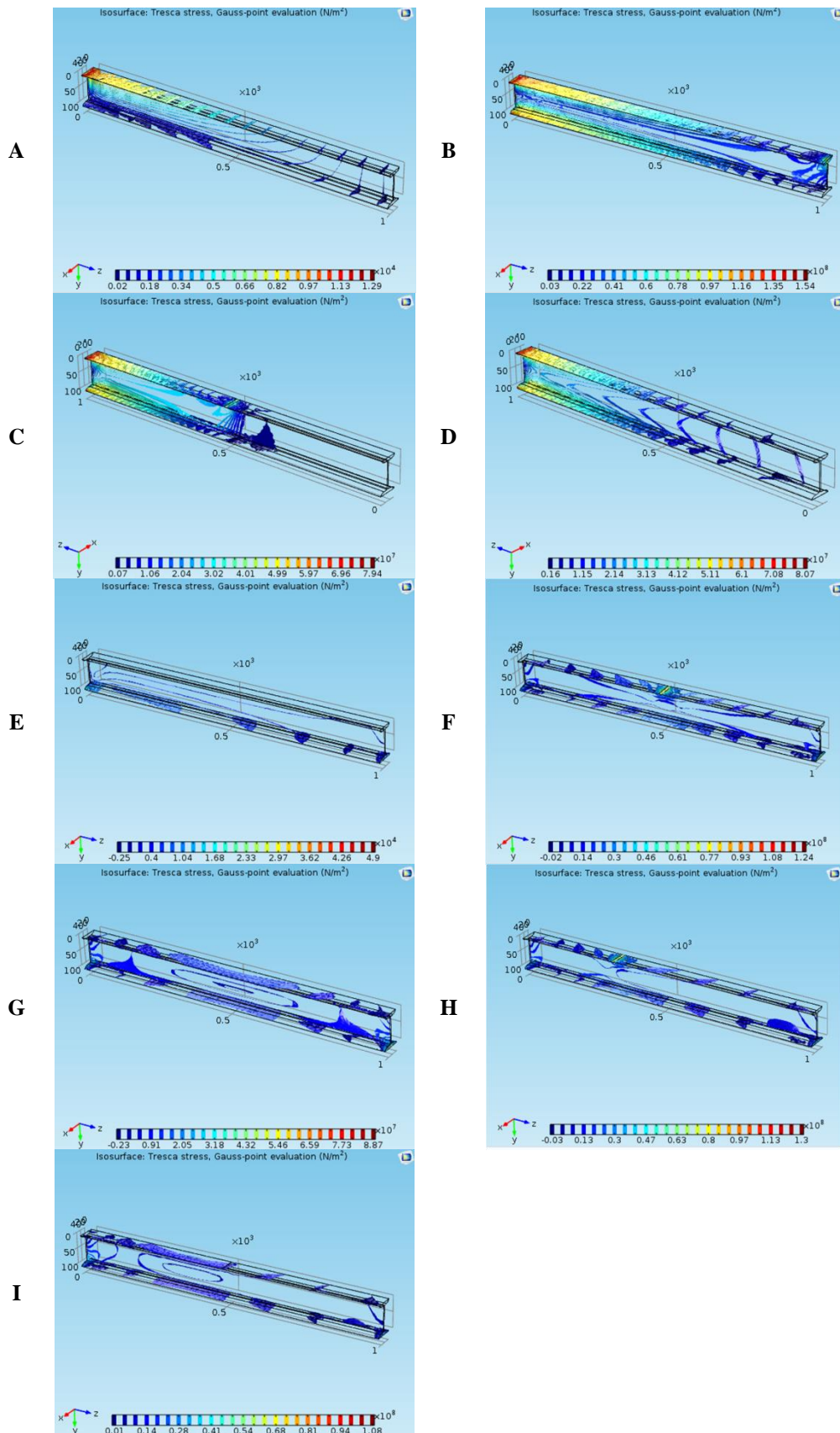


Figure 33 – Tresca stress: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIIHJ (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

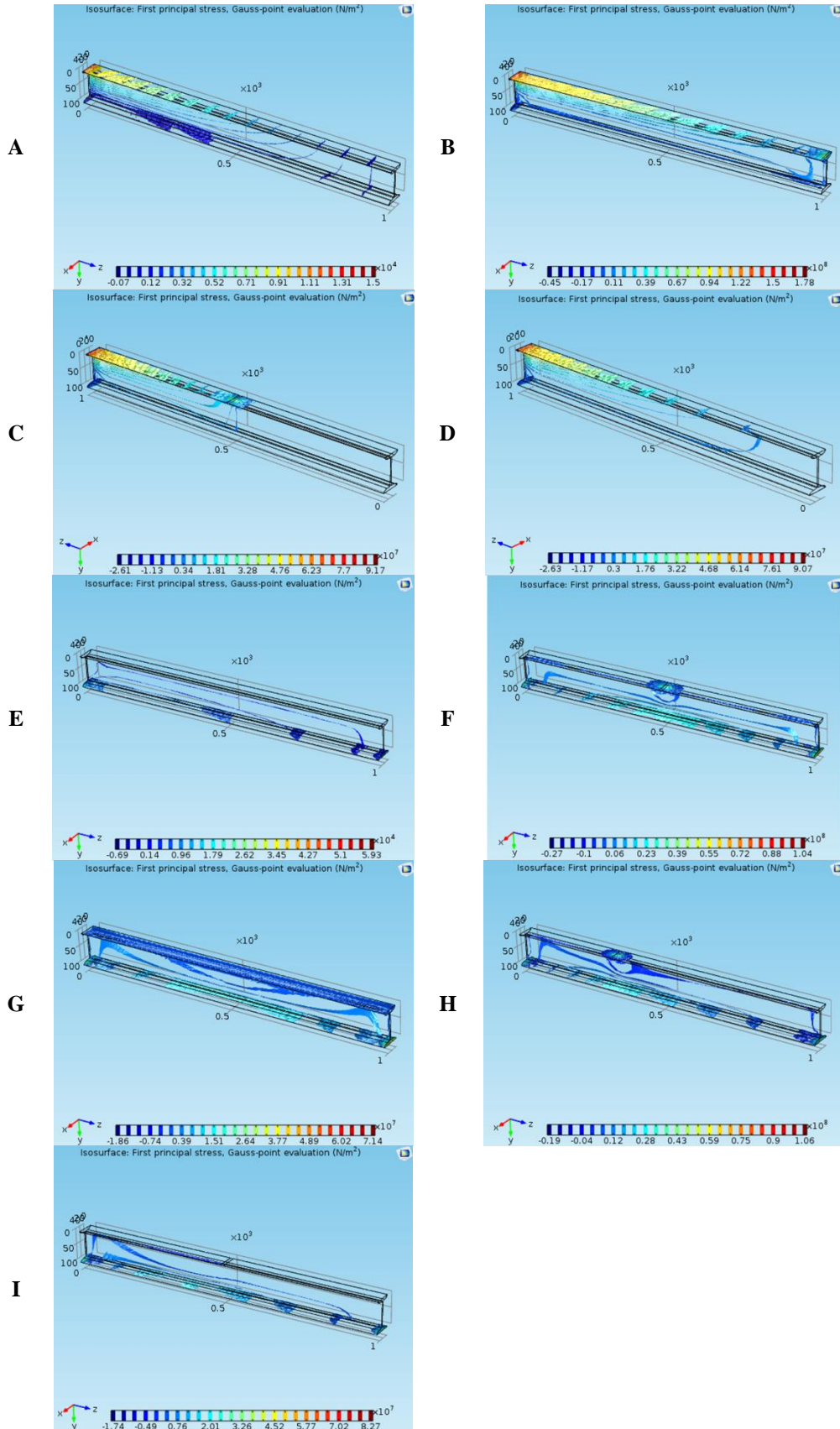


Figure 34 – First principal stress: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHII (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

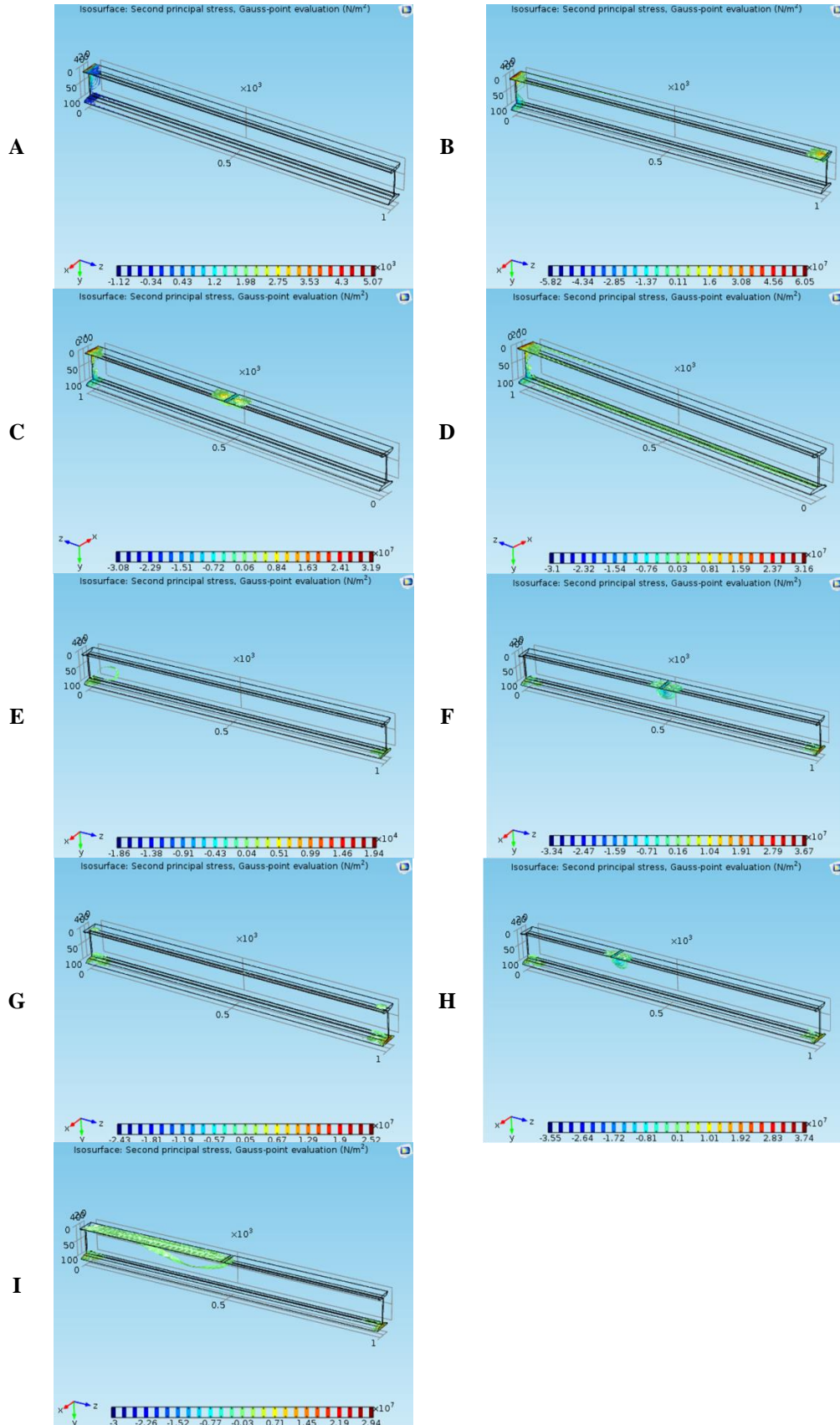


Figure 35 – Second principal stress: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHC (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

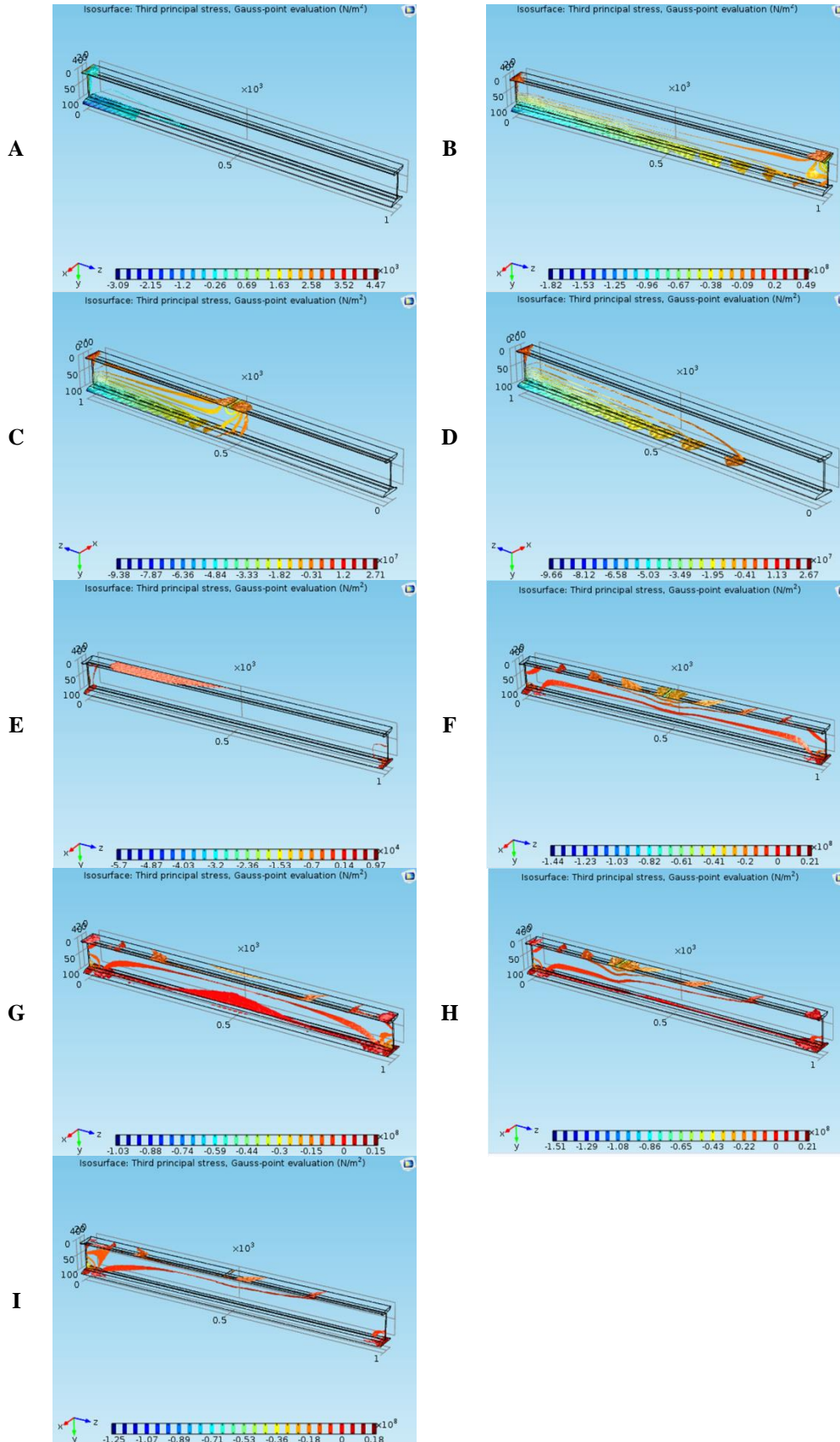


Figure 36 – Third principal stress: A – the first scheme; B – the second scheme; C – the third scheme; D – the fourth scheme; E – the fifth scheme; F – the sixth scheme; G – the seventh scheme; H – the eighth scheme; I – the ninth scheme.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

Von Mises stress is equivalent stress defined as the sum of all multidirectional stresses of material. Maximum von Mises stress of the cantilever I-beams is concentrated in cross sections of the elements close to the supports. Loading of the doubly supported I-beams by forces and moment is characterized by uniform distribution of the values of von Mises stress. The isosurfaces of von Mises stress in the inner layers have the elliptic shape at action of distributed force on the doubly supported I-beam.

The pressure isosurfaces characterize a stress type of the I-beams material. In the cantilever I-beams above the neutral axis there is tensile deformation, below the neutral axis there is compressive deformation. Tensile deformation (in the inner layers of material) prevails in the doubly supported I-beams.

Tresca stress is shear stress of material. It is introduced the criterion of maximum shear stress at which there is material destruction. The isosurfaces distribution of Tresca stress is identical to the isosurfaces distribution of von Mises stress. The average ratio of Tresca stress to von Mises stress is 1.065.

Normal stresses on areas of the selected element with zero shear stresses are called principal. Maximum and minimum principal stresses are stresses acting perpendicular to the plane on which

shear stress is zero. Maximum principal stress allows to determine maximum tensile stress that occurs in the structural element due to the load conditions. Minimum principal stress allows to determine maximum compressive stress that occurs in the structural element due to the load conditions. The isosurfaces of the first and third principal stresses allow to identify the dangerous sections of the I-beams. The volumes of the top flange at the distance from rigid restraint to middle of the span length are the dangerous sections for the second loading scheme. The isosurfaces of the second principal stress show local stresses of material in the application place of concentrated or distributed forces, as well as moment.

Conclusion

Action of concentrated force on the loose end of the cantilever I-beam can lead to significant plastic deformations of material. Material of the cantilever and doubly supported I-beams is subjected to stress more along the Z-axis. Stress distribution of the doubly supported I-beams material to the left and the right of the application place of concentrated and distributed forces is symmetrical. The most complex stress condition of material was determined at short-term loading of the doubly supported I-beams (variable stress of the web material).

References:

1. Andjelic, N., & Milosevic-Mitic, V. (2012). Optimum design of thin-walled I-beam subjected to stress constraint. *Journal of Theoretical and Applied Mechanics*, 50(4), 987-999.
2. Cejpek, J., & Juračka, J. (2016). Modifications of a simple I-beam and its effects on the stress state. *Aviation*, 20, 4, 168-172.
3. Moorman, R. B. B. (1937). Stresses in the curved beam under loads normal to the plane of its axis. *Retrospective Theses and Dissertations*, 14122.
4. Patel, R., Dubey, S. K., & Pathak, K. K. (2014). Effect of depth span ratio on the behaviour of beams. *International Journal of Advanced Structural Engineering*, 6:3.
5. Patil, T., & Shelke, N. L. (2016). Structural Analysis of a Cantilever Beam with Tapered Web Section through Fea. *J. Steel Struct. Constr.*, 2:119.
6. Kim, B., Oliver, A., & Vyse, A. (2013). Bending stresses of steel web tapered tee section cantilevers. *Journal of Civil Engineering and Architecture*, 7, 1329-1342.
7. Denan, F., Osman, M. H., & Saad, S. (2010). The study of lateral torsional buckling behaviour of a beam with trapezoid web steel section by experimental and finite element analysis. *International Journal of Research and Reviews in Applied Sciences*, 2, 232-240.
8. Ashby, M. F. (2005). *Materials Selection in Mechanical Design*, Elsevier.
9. Chemezov, D., Osipov, T., & Pesenko, A. (2016). A static calculation of an I-beam. *ISJ Theoretical & Applied Science*, 11 (43), 49-52.
10. Chemezov, D., et al. (2019). Bendings of cantilever and doubly supported steel I-beams. *ISJ Theoretical & Applied Science*, 01 (69), 261-267.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHII (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2019 Issue: 02 Volume: 70

Published: 28.02.2019 <http://T-Science.org>

QR – Issue



QR – Article



Aibek Ibaratovich Miyarov
Adjunct of Police Academy in Bishkek
major of militia

SECTION 32. Jurisprudence.

LEGAL ASPECT OF STATE RELATIONS AND RELIGIOUS ASSOCIATION IN THE SOCIAL CONCEPT OF RELIGIOUS ORGANIZATION

Abstract: In this article, the author considers the attitude of the state to religious associations, where secular law is recognized due to its human nature limited and imperfect. At the same time, the author analyzes social concepts noting the presence of a certain moral component in the law, which is concentrated in the words “do not do to others what you don’t wish for yourself”.

Key words: religious associations, social concept, religious sphere, secular law, legal conflicts, religious organizations, religious associations.

Language: Russian

Citation: Miyarov, A. I. (2019). Legal aspect of state relations and religious association in the social concept of religious organization. *ISJ Theoretical & Applied Science*, 02 (70), 340-343.

Soi: <http://s-o-i.org/1.1/TAS-02-70-31> **Doi:**  <https://dx.doi.org/10.15863/TAS.2019.02.70.31>

ПРАВОВОЙ АСПЕКТ ОТНОШЕНИЙ ГОСУДАРСТВ И РЕЛИГИОЗНОГО ОБЪЕДИНЕНИЯ В СОЦИАЛЬНОЙ КОНЦЕПЦИИ РЕЛИГИОЗНОЙ ОРГАНИЗАЦИИ

Аннотация: В данной статье автором рассматривается отношение государства религиозным объединениям, где признается светское право в связи с его человеческой природой ограниченного и несовершенно. Вместе с тем автор анализирует социальные концепции отмечая наличие в праве определенной нравственной составляющей, которая сконцентрирована в словах «не делай другим того, чего не желаешь себе».

Ключевые слова: религиозные объединения, социальная концепция, религиозная сфера, светское право, правовые конфликты, религиозные организации, религиозные объединения.

Introduction

В соответствии с Конституцией Кыргызской Республики [1], религиозное объединение отделено от государства и является равными перед нормами закона. Вместе с тем, изменения 90-х гг. создают в Кыргызстане иную ситуацию, где характерными явлениями считаются вопросы восстановления религиозно-институциональной составляющей, возрастания место религии в системе общества и доверие к религиозной организации со стороны народа, со сложившимися в обществе отношения в 1997 году был принят Закон Кыргызской Республики «О свободе совести и религиозных объединениях» [2], подписан Указ Президента Кыргызской Республики за № 203 от 14.11.2014 года «О концепции государственной политики Кыргызской

Республики в религиозной сфере на 2014-2020 годы» [3].

Materials and Methods

В социальной концепции иудаизма, христианства и ислама в качестве источника права выступает божественное установление, данное первым в процессе их расположения в раю, а выразившихся в грехопадениях нарушений человеком предписания Бога сократило сферу действия правовой нормы до размера современного общества, в котором «право призвано проявлять Божественного закона о мироздании в социальных и политических сферах [4, с. 64].

Признавая светское право в связи с его

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	ПИИЦ (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

человеческой природой ограниченного и несовершенного, социальной концепцией признается роль законодательств в установлении правопорядка посредством правовой регламентации отношения людей и разработки соответствующей санкции к нарушителю действующего закона. Рассматриваемые социальные концепции отмечают наличие в праве определенной нравственной составляющей, которая сконцентрирована в словах «не делай другим того, чего не желаешь себе», оценивая при этом любые преступления против личности в качестве нанесения ущерба определенному Богом мировой системе. Любое религиозное объединение видит один главный путь на восстановление целостности мирового порядка, эти призывания к добру и отстранения от зла верующим. Не выполнение данных обязанностей влечет всех людей в утоплении в грехах. В общем задачи взаимопонимания, и правопорядка всегда напрямую связываются со степенью их религиозной целостности – люди в таких сообществах рассматриваются с позиции правового дуализма: во-первых, из-за своей уникальности они неподсудны другим; во-вторых, с учетом признания фактов неизбежного влияния поступка каждого на общее положение дел, указанная концепция указывает о правомерности применения принудительной меры к гражданам, которые своими действиями наносят вред социуму [5, с. 29]. Данный подход содержит противоречия между представлением о человеке как результат творения Бога, ему подвластному и обязательностью подчинения всех индивидуумов правовому установлению, выработанному в процессах исторического развития государства. Рассматриваемые социальные концепции объясняют постоянное углубление этого противоречия утратой человеческими сообществами целостного видения реальности с вытекающим из них сокращением поля законодательного регулирования «до случая очевидного ущерба и прогнозируется дальнейшее уменьшение последних «вместе с разрушениями общественной нравственности и секуляризации сознания» [6, с. 128].

Тем не менее, как представляется, рассматриваемая тенденция является необходимой ибо вызванные потребности современного общества прогресса светского права, и совершенствование механизма правоприменительной сферы и правотворческой деятельности влечет дальнейшее удаление правового регулирования содержащихся элементов правового характера религиозного предписания [7, с. 37]. Согласно религиозному мировоззрению чтобы быть нормой закона, должны соответствовать установленным Богом принципу. Ибо «когда человеческие законы совершенно отвергают абсолютные Божественные нормы, заменив ее противоположным, он не может быть законом, став беззаконием. На наш взгляд, в

этом случае имеется в виду та христианская нравственная норма, которая уже давно приобрела общечеловеческий характер и учитывается при принятии законодательного акта во всех демократических государствах, так как являются известными многочисленными примерами беззакония приводящая именно фетишизации религиозной нормы и попытка построить на этом правовую базу [8, с. 102]. Согласно современным подходам Русских Православных Церквей это право нельзя отнести ни к правовой системе, так как в Церквях сегодня действуют свободное «от духовно падшего состояния мира» каноническое право, в силу своей над социальной природы не может являться частью законодательства.

Социальной концепцией акцентируется внимание на доминировании в современных светских правосознаниях представления о правах каждого, соотносит эти идеи с религиозным предписанием, указывающей [9, с. 84], что «Бог создал душу свободною и самовластною, и она вольна поступать, как хочет — хорошо или худо», а такое право, как право на веру, право на жизнь и право на семью является сокровенным основанием человеческой свободы и должен быть защищен от сторонних произволов.

Вместе с тем, с позиции религии, закон государства лишь тогда способен защищать человеческую свободу, в случае согласования с религиозными учениями. Однако согласно рассматриваемым концепциям современное светское представление о сущности права в качестве совокупности «признаваемой в этом обществе и обеспеченной официальной защитой норматива равенства и справедливости, регулирующей борьбу и согласование свободной воли в их соотношении друг с другом» [10, с. 397] является не что иным, как охрана своеволия индивидуумов, пытающихся отстоять свое право без связи с Богом и трансформирующееся, таким образом, в падших людей. Кроме того, социальной концепцией категорично противопоставляется позитивное право, и усматривается в нем конструкция, изобретенная человеком для нужды современного сообщества, самым существенным изъяном которого, по мнению Церкви, является неспособность нормы светского права к обладаниям абсолютных правовых основ. Вышеуказанной концепцией связывается несовершенство национальных законодательств не с объективно существующими элементами постоянного их совершенствования согласно со стоящей перед государствами задачами, а с несовершенствами и греховностью каждого народа и признается истинными только такие порядки законотворчества, когда законодатели «приспосабливают абсолютные истины Божьего к конкретным историческим и национальным реалиям».

В то же время в соответствии с занимаемыми

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	ПИИЦ (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

традиционно исламскими позициями их собственные, основанные на исламском шариате права, в силу их нахождения в сфере светского государства не вступают в противоречие с любыми светскими системами права. Верующий, уважая действующие нормы законодательства и учитывая, что мусульмане связаны с исключительно земным делом в вопросах обязан исполнять требование закона независимо от его совершенства, «неизменно призывают других быть законопослушным гражданином земного шара». Несмотря на это, социальные концепции строго регламентируют пределы законопослушания своего последователя, ограничивая в вопросе, решение которого, согласно позиции Церкви, не выступает исключительным решением. В связи с этим важно отметить, что согласно закону Кыргызской Республики «О свободе совести и о религиозных объединениях», религиозная организация действует согласно своему внутреннему установлению, если это не противоречит законодательству Кыргызской Республики, и обладает правоспособностью, содержащихся в его уставе. Государства, в свою очередь, должны уважать внутреннее установление религиозной организации, если указанное установление не противоречит нормам законодательства Кыргызской Республики. Отмечая отсутствие в законодательстве о свободе совести, свободе вероисповедания и о религиозном объединении нельзя истолковывать смысл умаления или ущемления права человека и гражданина на свободу совести и свободу вероисповедания, которые гарантированы Конституцией Кыргызской Республики или вытекающими из международных договоров Кыргызской Республики, полностью исключая возможности принятия отечественным государством правового акта, противоречащего внутреннему установлению законно действующего религиозного объединения. Следовательно, установление Духовным управлениям мусульман Кыргызской Республики границ законопослушания своих последователей, как представляется, создает условия для того, что религиозный долг и боязнь наказания за нарушение религиозных предписаний могут

стать определяющими в выборе верующими характера своего поведения, а когда для верующего является нравственным лишь то, что провозглашает религия (в соответствии с их логикой это также соответствует воле Бога), неизбежно возникают перерастающие в конфликт противоречия между религиозными представлениями о пределах правового регулирования различных сторон жизни общества и действующими нормами права.

Conclusion

Социальная концепция рассматривает искоренение преступности не только как удел государства и его правоохранительных органов, но считает эту задачу общенародным делом, а, значит, и самой религией, которая видит свое призвание в активном участии совместно с учебно-образовательными учреждениями, средствами массовой информации и правоохранительными органами в профилактике правонарушений. Целью данной совместной работы, проводимой прежде всего путем использования комплекса воспитательных и просветительных мер, должно стать «утверждение в обществе истинных духовных и нравственных ценностей» ибо, согласно религиозных убеждений, при отсутствии у людей стремления к положительному нравственному идеалу никакими принудительными мерами поддерживать законность и правопорядок не представляется возможным.

Формой практической реализации изложенных идей и, соответственно, предотвращения правонарушений социальная концепция называет внедрение в общественное сознание понимания необходимости ведения образа жизни, соответствующего нравственному облику честного человека, уделяя при этом особое внимание детям, подросткам и лицам, относящимся к группам риска или совершившим первые правонарушения. А также участие священнослужителей и верующих в устранении причин преступности, порожденных социально-экономическими и иными проблемами современного общества.

References:

1. (2010). Konstitutsiya Kyrgyzskoy Respubliki ot 27.10.2010 goda.
2. (1997). Zakon Kyrgyzskoy Respubliki «O svobode sovesti i religioznyih ob'edineniyah» ot 1997 goda.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

- (2014). Ukaz Prezidenta Kyrgyzskoy Respubliki za # 203 ot 14.11.2014 goda «O kontseptsii gosudarstvennoy politiki Kyrgyzskoy Respubliki v religioznoy sfere na 2014-2020 gody».
- (2000). *Osnovyi sotsialnoy kontseptsii Russkoy Pravoslavnoy Tserkvi*. (p.64). Moscow: Izd. Moskovskoy Patriarii.
- (1994). *Obschaya teoriya prava i gosudarstva*. In V.V.Lazareva (p.29). Moscow: Yurist..
- Zaluzhnyiy, A. G. (2004). *Prokurorskiy nadzor za ispolneniem zakonov o svobode sovesti, religioznyih ob'edineniyah i protivodeystvii ekstremizmu*. Nauchno-metodicheskoe posobie. (p.128). Moscow: NII problem ukrepleniya zakonnosti i pravoporyadka pri Generalnoy prokurature RF.
- Pristanskaya, O. V. (2004). *Pravo nesovershennoletnih na informatsionnuyu bezopasnost*. Rol religioznyih ob'edineniy, shkoly i obschestvennosti v preodolenii besprizornosti i ukrepleni npravstvennogo zdorovya podrastayuscheho pokoleniya. Materialyi konferentsii. 1VL: PBOYuL Izmaylova. S.», p. 37.
- Klochkov, V. V. (1978). *Religiya, gosudarstvo, pravo*. (p.102). Moscow: Myisl.
- Dozortsev, P. N. (1998). *Genezis otnosheniy gosudarstva i tserkvi (isto-riko-bibliograficheskiy aspekt)*. (p.84). Moscow: Manuskript.
- Yanovskiy, R. G. (2004). *Patriotizm; O smysle sozidayuscheho sluzheniya Cheloveku, Narodam Rossii i Otechestvu / In-t sots.-polit. Issledovaniy RAN*. (p.397) Moscow: Kniga i biznes.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2019 Issue: 02 Volume: 70

Published: 28.02.2019 <http://T-Science.org>

QR – Issue



QR – Article



Dilshod Sholdarov
Senior lecturer of
the Department of Pension work,
Tashkent Financial Institute,
Republic of Uzbekistan

Bahtiyor Mullaboev
teacher of
Namangan engineering pedagogical institute

PROBLEMS OF SUPPORTING FINANCIAL STABILITY OF THE PENSION SUPPLY SYSTEM IN UZBEKISTAN

Abstract: The article deals with the current state of the pension system, the factors affecting the financial stability of the pension system, and the existing problems in the system. Scientific conclusions have been developed to ensure financial sustainability of the Uzbek pension system and scientific recommendations and recommendations aimed at strengthening financial sustainability have been developed.

Key words: pension, pension fund, pension, pension system, off-budget Pension Fund, financial stability, average life expectancy, wages, single social payment, demographic factors.

Language: English

Citation: Sholdarov, D., & Mullaboev, B. (2019). Problems of supporting financial stability of the pension supply system in Uzbekistan. *ISJ Theoretical & Applied Science*, 02 (70), 344-349.

Soi: <http://s-o-i.org/1.1/TAS-02-70-32> **Doi:** <https://dx.doi.org/10.15863/TAS.2019.02.70.32>

Introduction

Social protection and financial support of socially vulnerable segments of the population are important and indispensable part of the state social policy.

From the moment of human civilization to the present day, a system has been formed to ensure that the elderly, the disabled, the underage and other social welfare benefits society as a full-fledged member of society. In the current period, the system of social security and pensions is crucial and actual. In particular, according to the United Nations, 962.3 million people worldwide are over the age of 60 in 2017¹, which accounts for about 13 percent of the world's population. In general, it would be obvious that this scale would be more significant if we understand that people with disabilities, such as the elderly, the disabled, the poor, the disabled, or those who have lost the bread-winner in society. All members of society are responsible for their social

security. In this regard, at some stage of development, pensions and social insurance funds that provide material and financial support for the elderly, persons with disabilities and the breadwinner have been formed.

Over the years, pension funds have evolved rapidly as a source of financial resources for the economy. Regular growth of the population and their involvement with the pension system became the main priority. However, factors such as the aging of the population as a result of the decline in birth and the prolonged lifetime of the mid-80s of the 20th century have had a negative impact on the financial viability of the world's pension system. The increase in pension payments to the working population in many countries has led to a deficit of pension funds. This problem was caused by the reduction of the ratio of the number of working people (coefficient of coefficient) to one pensioner. For example, in developed countries in the 50s of the 20th century, this coefficient amounted to 3.5 per worker per capita, while in the 1990's it was 2.5 [1]. Macroeconomic factors such as unemployment, inflation, and barter calculations have led to a lack of

¹
http://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2017_Highlights.pdf

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

accumulated pension funds at the expense of the state budget.

This, in turn, did not allow for the financial independence of the state pension funds. These factors have had a negative impact on the financial stability of pension systems in the world.

Literature review

The countries have begun to take serious measures and changes to ensure the financial sustainability of the pension system and the effective organization of its activities.

In recent years, economists have accumulated extensive theoretical and practical research on studying the pensions and ensuring its financial sustainability. Many economists show the "dependency coefficient" as an important indicator of the financial sustainability and effective functioning of the pension system [2].

D.Rustamov emphasized that the Pension Fund is important to study the best international practices in addressing issues related to enhancing financial sustainability and activating investment policy, and promoting the provision of pensions to citizens in various countries around the world, while in some countries the priority is given to state funding of the pension system, others think that private pension funds will be created [3].

B. Mamatov acknowledged that "the financial stability of the Pension Fund is due to the timely and full implementation of payments for it and to the effective organization of pension management" [4].

Providing sustainability of pension funds is of great importance from macroeconomic point of view, as well as the following opinion of the American scientist Jun Peng: "... pension management does not only affect the financial sustainability of pension provision, but also the financial stability of the entire public sector, management must be bound to each individual who pays a pension to the state pension system and who receives pension benefits guaranteed by the government in the future"[5].

Ph.D., associate professor Z. Abdullayev has five factors that influence the financial stability of the pension system:

- Continuous decline of population co-population, slowing down of population growth rates;
- Improvement of living standards of the population and development of medicine;

- Decrease in the number of economically active workers in the total number of population;
- economic crises;
- Increasing the number of unemployed.

According to the scientist, simultaneous occurrence of the first three factors, in almost all countries of the world, has led to deficits in the state compulsory pension funds, ie, deficit cases, and its volume is increasing from year to year. The global financial crisis, which began in the first decade of the 21st century and covered the countries of the world, has a double negative impact on the budgets of public pension funds in almost all countries of the world, especially in European countries. As a result of the above five factors, states are forced to spend large amounts of gross domestic product (GDP) generated for retirement expenditures [6].

In this regard, Professor A. Vakhobov acknowledges that the following two issues are in place for the establishment of a state-funded pension system in co-ordination of the following two key issues:

First of all, to maximize the participation of all members of the society in the system of public pension system by expressing the social features of the system, thereby arranging the provision of pensions and other social benefits to the citizens as and when required;

Secondly, it is aimed at ensuring the balance of income and expenses, reflecting the financial aspect of the pension system. It is well-known that demographic, social, political and many other changes in the world have a direct impact on the financial stability of the pension system.

Analysis and results

In most countries, pension schemes are the most important part of the pension system, and the accumulative pension is funded additionally to the distribution system (including Uzbekistan). In this context, the financial sustainability of the pension system focuses on a distributed pensions system, where emphasis is placed on the priority.

In Uzbekistan, a distributed pensions system is of primary importance in the system of social security of the population and the state pensions are entrusted to the off-budget Pension Fund. The state pensions and social benefits are assigned and paid by the Fund.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

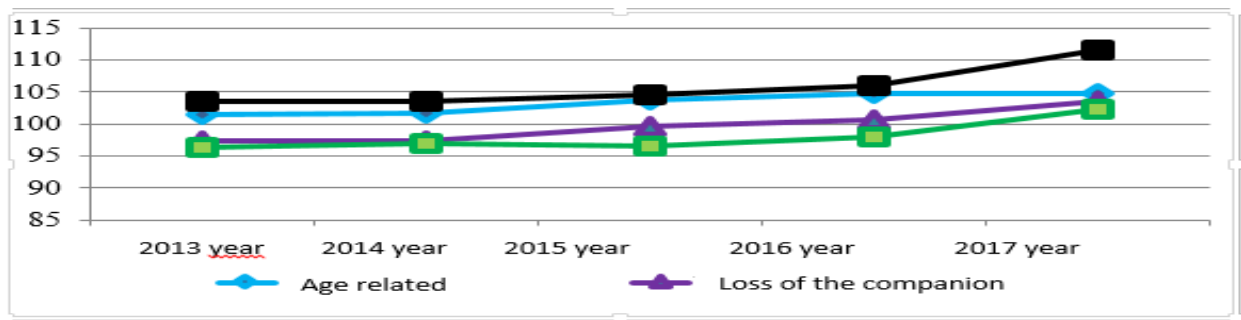
Table 1. Number of Retirees and Retired Retirees for 2012-2017.

r/n	Indicators	2012	2013	2014	2015	2016	2017
1	Age related	2118186	2147549	2181771	2262990	2369317	2481488
2	Disability	397265	382757	371374	358572	351546	359291
3	Loss of the companion	169819	165317	160784	160056	161224	166842
4	Social pensioners	218413	225949	233938	244576	259069	289132
Total number of retired and retired people		2903683	2921572	2947867	3026194	3141156	3296753

Source: Information from the Off-budgetary Pension Fund under the Ministry of Finance of the Republic of Uzbekistan.

According to statistical data of the Pension Fund, by the end of 2017 there are approximately 3.3 million recipients of social benefits and about 10% of the country's population. At the same time, 2,481,500 retiree pensioners, 359,300 persons with disabilities retirees, 166,800 pensioners and 279,000 pensioners.

In the last six years, the total number of recipients of social benefits from the Pension Fund increased by 13.5%, while pension types increased by 17.2%, pensioners - by 32.4%, recipients of pensions - 1.8, the number of pensioners with disabilities decreased by 9.6%.



Source: Information from the Off-budgetary Pension Fund under the Ministry of Finance of the Republic of Uzbekistan.

Fig 1. Changes in the number of retirement and social pension recipients (as% of the previous year).

The number of retirement and retirees for the analyzes has increased by an average of 2.5 per cent annually. The main growth is due to retirement and retirement benefits. In particular, the average annual retirement age is 3.2%, and social retirement age is 5.7% per annum. Generally, absolute growth has grown to 393.1 thousand over the past six years, with the largest increase in pensions (363.3 thousand).

It is well known that Uzbekistan is a demographically young country in the world, with a high proportion of labor force in the country's young people, and the retirement age for other countries is at the lowest level. According to the Pension Fund's forecast, the average life expectancy in the country in the coming years will also increase.

Table 2. Prognosis of average life expectancy and average retirement life expectancy of Uzbekistan's population in 2018-2025 (years).

№	Indicators	2018	2019	2020	2021	2022	2023	2024	2025
1	Average life expectancy (males)	73,0	73,5	74,0	74,5	75,0	75,0	75,0	75,5
2	Average life expectancy (women)	78,0	78,0	78,0	78,0	78,0	78,5	79,0	79,0
3	Average retirement age for men retired at age 60	17,0	17,5	17,5	18,0	18,0	18,0	18,0	19,0
4	Average retirement age for women retired 55 years	24,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0

Source: Information from the Off-budgetary Pension Fund under the Ministry of Finance of the Republic of Uzbekistan.

In particular, the average lifetime of men in 2018-2025 will increase from 73 to 75.5 years, and

the increase in females from 78 to 79 years. If the retirement age is not adjusted, the average retirement

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

age for men in the country will increase to 19 years (+2 years) by 2025 and 25 years (+1 years) to women. According to the forecast, the proportion of retirement age population (by 1.2 million people) in 2018-2025 is expected, which, in turn, will increase proportionally the costs of the Pension Fund.

The aging population shows that the retirement age population has a tendency to grow (from 5.9 percent in 2010 to 7.4 percent in 2018). Starting from 2016, the number of annual appeals for retirement in the Republic of Uzbekistan (an average annual increase of 206,000) is expected to reach 300,000 by

2025. According to statistical data, the population of retirement age will increase by more than 9% in 2019 and will reach 11% by 2025. This necessitates a regular increase in pensions, which is obviously a necessity to increase earnings from the Pension Fund.

The legislation of the Republic of Uzbekistan stipulates that the Pension Fund's funds will be used to pay pensions for working and working pensioners, for the elderly and those who are incapable, to pay the burial allowance and other allowances.

Table 3. Expenditures of the Pension Fund for 2012-2017 (in billion soms).

r/n	Indicators	2012	2013	2014	2015	2016	2017
1	Unemployed Retirees	7144,7	8749,7	10334,4	12470,6	13894,6	15970,8
2	Employee pensioners	236,1	278,9	316,9	387,3	430,4	486,7
3	Older and disabled citizens, funeral allowances and other payments (PJ funds)	14,4	22,4	31,2	120,4	152,6	174,6
4	Other expenses	4,4	4,2	4,3	5,6	2,2	1,2
Total funds		7399,6	9055,2	10686,8	12984	14479,8	16633,3

Source: Information from the Off-budgetary Pension Fund under the Ministry of Finance of the Republic of Uzbekistan.

The total amount of pensions and social allowances funded by the Pension Fund's financial resources in 2017 was 16633.3 billion soms or 6.54% of GDP. It is expected that this figure will increase further in the coming years due to the increase in the number of retirement pensioners.

In order to implement the tasks outlined in the Action Strategy of the Republic of Uzbekistan in five priority areas of the development of the Republic of Uzbekistan for 2017-2021, defined by the Decree of the President of the Republic of Uzbekistan dated February 7, 2017, NPP-4947, wide-ranging measures are being undertaken to reform the system of state pension provision. In this context, retirement and funeral benefits for elderly and disabled citizens who do not have the required length of service at the expense of the Pension Fund in accordance with the Resolution of PQ-4086 of December 26, 2018, in the context of pension reform in the country, budget funds. In order to ensure social justice in the pension system, the average monthly wage for the retirement benefit has been increased from 8 to 10 times the minimum wage, which guarantees a higher retirement age at the retirement age.

By 2019, more than 50 per cent of pensioners were paid for the majority of working pensioners.

According to the Decree of the President of the Republic of Uzbekistan from December 12, 2018 "About additional measures on increase of efficiency of system of pension provision and increase of social support of pensioners" from January 1, 2019 it is planned to pay pensions to all pensioners.

The financial sustainability of pension funding is determined by the proportion of income and expenses. In establishing the public pension system, the government tries to create as little as possible the economy and not adversely affect economic growth, but the other side of the coin is that the pension and social payments are covered by the State's compulsory social payments and payments for replenishment of pension funds. The Public-funded pension funds are formed by payments from employers and employees. Where necessary, state pension funds may also be funded by state social transfers.

By 2018, the Pension Fund has been formed at the expense of allocation of the main financial support from the single social payment, compulsory insurance premiums, voluntary insurance payments, volumes of goods (works, services) realization.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

Table 4. Income of the Pension Fund for 2012-2017 (in billion soms).

r/n	Indicators	2012	2013	2014	2015	2016	2017
1.	Remaining per year	406,2	785,7	1472,4	2564,4	2118,7	2310,7
2.	Separation from single social payment	4786,3	5957,4	7338,6	7611,3	8774,7	10280,5
3.	Insurance charges	1091,7	1599,1	2036,2	2595,6	3121,5	3940,6
4.	Obligatory deductions from sales volume (service)	1403,3	1436,4	1505,8	1197,4	1354,7	1804,9
5.	Other Income	571,8	748,9	902,1	1130	1421	1681,4
Total funds		8259,3	10527,5	13255	15098,7	16790,7	20018,1

Source: Information from the Off-budgetary Pension Fund under the Ministry of Finance of the Republic of Uzbekistan.

The main share of the pension fund's revenues is provided by the single social payment, which is about 52-60% of the total income of the fund. In general, the allocations of employers are of primary importance in all the countries of the world in the pension system. During the period under review, the Pension Fund did not receive social transfers from the state budget but on the contrary, the compulsory insurance premiums collected from the citizens' salaries and the increase in mandatory deductions from the sale of commodities (works, services) resulted in a substantial positive balance between the income and expenditures of the fund. In 2012-2017, the compulsory insurance premium rate increased from 5.5% to 8%, while the mandatory allocation rate of goods (works, services) was determined as 1.6%. The positive balance of the Pension Fund at the end of 2017 amounted to 3007.0 million sums.

From the year 2018, radical transformation and large-scale reforms have started in Uzbekistan's public finance and tax system. As part of the reforms, a number of changes have taken place in the mechanism of financing the pension system. According to the Resolution of the President of the Republic of Uzbekistan from January 1, 2019 "About forecast of the main macroeconomic indicators and parameters of the state budget of the Republic of Uzbekistan for 2019 and budget parameters for 2020-2021" from January 1, 2019 it is planned to increase the material-technical base of off-budget educational and medical institutions under the Ministry of Finance Development Fund of the Irrigated Land Fund and Ministry of Finance the Fund for the Development of the Aral Sea region has been abolished, and their remaining funds will be transferred to the off-budget Pension Fund.

With the introduction of large-scale reforms and reforms in the tax system in Uzbekistan, structural changes have taken place in forming the financial resources of the Pension Fund. In particular, from 2019, the deficit caused by cancellation of compulsory insurance premiums, mandatory payments from the volume of goods (works, services), will be compensated by:

- subsidies from the state budget;
- Legalization of about 1.2 million workers engaged in a hidden economy;
- by allocation of 46% of total revenues of the single tax payment to the state budget through the Pension Fund.

The main source of income for the pension fund is Single Social Payment (GDP). This payment will be paid by the employer from the general wage fund. As of 2018, the GDP volume is 25% for all legal entities (24.8% - Pension Fund, 0.1% - Employment Fund, 0.1% - Federation of Trade Unions of Uzbekistan), 15% for micro-firms and small businesses and private farms (14.8% - to the Pension Fund, 0.1% to the Employment Fund, 0.1% to the Federation of Trade Unions of Uzbekistan). According to the Decree of the President of the Republic of Uzbekistan from December 26, 2018 of N PP-4086, since January 1, 2019, legal entities with budgetary organizations and state-owned enterprises, as well as 50% or more of the state-owned share capital, shall receive 25% (99.2% 0.4% - to the Employment Fund, 0.4% to Federation of Trade Unions of Uzbekistan) and other legal entities not eligible for 1 item - 12% (98.4% - Pension Fund; 0.8% - Employment Fund; , 8% - the trade union of Uzbekistan The Federation of Public Utilities (ICTs) has been selected.

Conclusion/Recommendations

1. Continuous decrease of population co-infant mortality rate, deceleration of population growth, improvement of living standards and development of medicine, decrease of economically active population in the total number of population, economic crisis, increase in the number of unemployed, etc.) factors.

2. Financial sustainability of the pension system is characterized by the fact that most of the economically active population is left out of the pension system, the practice of privatization of pension funds is not sufficiently successful in the pension system, the high impact of pension funds on economic growth, and moderate decline in average

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

annual investment in countries with cumulative pension system effect.

3. For the effective and functioning of the pension system, the pension system provides a socially effective and individual justice, pensions covering the loss of earnings in proportion to the amount of insurance premiums paid in the labor activity, and economically feasible, with no deductions of economic benefits for business entities, should be established.

4. Pensions must be planned with clear and guaranteed financial resources and pension payments of insurance funds for effective long-term activity.

5. In order to increase the coverage of pensions, it is necessary to develop measures to ensure the involvement of the citizens in the system of pensions and systematically evaluate and monitor the financial sustainability of the pension system.

6. We believe that in the coming years, it is necessary to create conditions for expanding the coverage of social payments through the legalization of the informal economy and the conclusion of intergovernmental agreements with the countries receiving migrant labor from Uzbekistan to ensure the financial sustainability of pensions and increase the receipts to the Pension Fund.

References:

1. Borisenko, N. Y. (2004). Mirovoy opit provedeniya pensionnoin reform. *Finansiikredit*, № 18, 54.
2. Sholdarov, D., & Tursunov, J. (2018). Improvement of the system of state pension provision in Uzbekistan. *Scientific journal "Finance"*, 1st issue, 107.
3. Rustamov D. (2018). Improvement of the system of state pension provision in Uzbekistan. *Scientific journal "Finance"*, 4th issue, 60.
4. Mamatov, B. S., & Achilov, U. U. (n.d.). *Strengthening Financial Stability of the Off-budget Pension Fund*. Retrieved 2019, from <http://interfinance.uz/en/arxiv/231-ikki-4hh-2>
5. Jun Peng (2008, August 21). *State and Local Pension Fund Management*. (Public Administration and Public Policy) 0 th Edition. (p.5). USA: Publisher: AuerbachPublications.
6. Abdullaev, Z. (2016, October 2). You have a problem with the psychiatric or natural disaster. *Electronic journal "International Finance and Accounting"*.
<http://interfinance.uz/en/arxiv/223-arxiv2>
7. (n.d.) Retrieved 2019, from http://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2017_Highlights.pdf
8. (n.d.) Retrieved 2019, from <http://pfru.uz/ru/page/518/proekt-koncepciya-reformirovaniya-sistemy-gosudarstvennogo-pensionnogo-obespecheniya>

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2019 Issue: 02 Volume: 70

Published: 28.02.2019 <http://T-Science.org>

QR – Issue



QR – Article



Rakhmatilla Oltinovich Ismatov

Associate Professor of Namangan Engineering
Construction Institute,
Namangan, Republic of Uzbekistan

Tulqinjon Yusupjonovich Dadaboev

Associate Professor of Namangan Engineering
Construction Institute,
Namangan, Republic of Uzbekistan

Shukhratjon Ahmadjonovich Karabaev

Senior teacher at Namangan Engineering
Construction Institute
Namangan, Republic of Uzbekistan

**SECTION 31. Economic research, finance,
innovation, risk management**

INVESTMENT POSSIBILITIES IN AGRICULTURAL NETWORKS

Abstract: Today, in many leading countries, the provision of cheap and high-quality agricultural products to the population is one of the primary problems. The article examines the issues of effective provision of food safety in the country and its formation, including the issues of ensuring the sustainable development of the agrarian sector. Sustainable development of the sector, the essence of investment activity and its determinants.

Key words: investment, asset, real investment, financial investment, agriculture, investment activity.

Language: English

Citation: Ismatov, R. O., Dadaboev, T. Y., & Karabaev, S. A. (2019). Investment possibilities in agricultural networks. *ISJ Theoretical & Applied Science*, 02 (70), 350-355.

Soi: <http://s-o-i.org/1.1/TAS-02-70-33> **Doi:**  <https://dx.doi.org/10.15863/TAS.2019.02.70.33>

Introduction

As noted by the President of the Republic of Uzbekistan Sh.Mirziyoev, the issues of agricultural reform and food security will undoubtedly remain one of the most important tasks for us. First, great attention is being paid to the consistent development of the agro-industrial complex and its multi-profile farms, its locomotives, that is, the driving force [1].

Therefore, the implementation of these measures is one of the most urgent tasks of today: structural and organizational reform in line with the requirements of the modernization of the industry on the basis of cooperation of the various infrastructure workers, providing the stability of agriculture, increasing its economic activity and promoting its development. It will not be exaggerated.

In particular, the experience of establishing agricultural production in advanced foreign countries, particularly in the country, is characterized by insufficient financing of production of small commodity products, low production volumes, low investment attractiveness and attractiveness, and for

other reasons, the effective organization of modernization processes is extremely difficult indicates that Specifically, although the proprietary and property relations in the farming and dehqan farms are in line with market economy requirements, practitioners show that their current size is the result of the technical re-equipment of the village, which is the basis for expanded reproduction in the conditions of individualized distribution and financial vulnerability. Sustainable farming production efficiency is a complex process. Thus, in the subsequent stages of structural and institutional reforms in the agrarian sector, it is necessary to continue the work on establishing and expanding sustainable cooperation between the enterprises, actively involving small businesses and private entrepreneurship in this process. It should be borne in mind that the development of cooperative relationships is one of the most important factors in the sustainability of enterprises and sectors of the economy, mastering new types of products and, most

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

importantly, creating new jobs, increasing employment and income.

Ensuring sustainable development of the agrarian sector requires continuous expansion of the scale of measures in the conditions of economic liberalization. One of such important measures and directions is the creation of a complex investment-efficient investment mechanism, investment climate, process, capacity, activity and attractiveness. The Decree PF-5134, signed by the President of the Republic of Uzbekistan Shavkat Mirziyoev on 4 August 2017, the ministry's activities are fundamentally improved. The main opportunity to increase investment activity is the sharp decline in agricultural crops, the availability of all the necessary conditions for the growing agricultural production. An important factor in increasing investment activity is to ensure the priority development of farms in the future. To fulfill this task effectively, a profound study of the present situation is required. This article is devoted to this issue.

Literature review

Theoretical-methodological foundations of the socio-economic development and financing of agricultural economics are based on the findings of Max Weber [2] who conducted their theoretical and methodological foundations on the role of farmers in the effective use of investment by European scientists, and contemporary researchers Karen E , Steve Padgett Vásquez, Jaap Jean Schröder, Dunstan Gabriel Msuya, Mohamed Ali Mohamed, Tilman, D., Cassman, KG, Matson, PA, Naylor, R. and Polasky, S, Kotschi, J, Gerbens-Leenes, PW and Nonhebel, S., Oleson, J.E. and Bindi, M. [3-10]. Theoretical-methodological foundations of socio-economic development and financing of agricultural economics have been studied by foreign scientists L. Tsefu, Ts.Fan, L.Chjoular in their research on the basis of China's experience in agricultural development strategy [11], I N.Buzdalov spoke about the agricultural development reforms in the Russian state [12], the specific method of development of I.Sandu on the basis of integration of agriculture, science and education rights and the effectiveness of [13], Utku Djanibekova, Robert Fingers importance of research in the development of agriculture and the state program of research [14].

A.Abduganiyev, a local scientist, highlighted the importance of agriculture and its role in the economy, its relevance and its effectiveness, [15]. A.Juraev spoke about the economic reforms in agriculture in our country [16], agricultural development, dehkan and farming activities, R.Husanov, R.Hustmurodov [17], Q.Akhiyev, and N.Shushmatov. [18] S.Umarov, [19] S.Tuhtaeva, [20] B.Shakhriyorov, [21] G.Makhmudova [22] and others.

Research Methodology

The purpose of this article is to develop and promote investment activity in the agrarian sector.

Investments vary as follows: 1) fixed capital (capital) - capital investments or real investment; 2) Securities - portfolio investments; 3) public, private and foreign.

However, in the present stage of agrarian reforms based on these studies, theoretical and practical scientific study of the problems of attraction and efficiency of investments in agriculture to the economy of our Republic plays an important role, however, the lack of adequate study of scientific problems in the context of rapid development of the current economic economy, will be the basis for research.

Particular attention should be given to the formulation of investment policies in the agricultural sector under conditions of market economy:

- Selection of competitive projects because of tender will ensure the creation of a market for investment projects in agriculture;

- Economic feasibility of agricultural investments. Determine the socio-economic consequences of the natural and economic factors of the economy, taking into account the specific features of agriculture; because in most cases the funds allocated for the project will not be sufficient to fulfill the intended activities, as the result will not be achieved; which results in long-term investment projects;

- Attraction of foreign investors and their investments in agriculture; for which the development of private and private property should be required for all agricultural products.

Investing activities are of a multilateral nature, primarily due to the different levels of investing activities. Therefore, consideration of the factors affecting investment activity also requires compliance with multi-disciplinary approach.

We believe that four levels of investment activity in the agrarian sector can be distinguished:

- Regional level;
- Level of the agrarian network of the region;
- Level of agrarian industry.

The most important factor is the priority development of dehkan and private farms in increasing the investment activity. This is because an investment environment is in place that fully meets the interests of the investor-investor according to market principles. The investment demand is dehkan farms of the subject, which are the most important source of income by attracting investors, if they need constant investment funds, and secondly, investors.

Stage-by-stage implementation of the new investment mechanism has been carried out in the country. In this context, it is theoretically important to analyze the investment activity in several stages in the light of the economic liberalization of the process

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

and the changes in all sectors of the economy and the formation of market relations.

On the basis of studying the state of investment potential, the potential of domestic economy, capacities and investment requirements, it is possible to compare the proportionate or compatibility with their external factors. The level of development of farming, in particular, farming activities, varies according to their variations and can be divided into 3 categories.

The first category is the farmers in need of material and financial resources that are experiencing a process of independent primary management and consolidation of the newly established farming.

The second group is farmers who have some degree of practical experience and who have achieved financial returns and achieved average profitability but are unable to provide themselves with investment.

The third category, having the most advanced scientific and technical achievements, has the intensive development, has the necessary material means, and has the practical experience of attraction of domestic and foreign investments partially to the production of high quality and environmentally friendly products, farms that have the capacity to finance them mainly through internal resources.

Most of the farmers operating in the country can be included in the first and second categories. This indicates that the development of investment processes is a priority. The strategy for increasing investment activity should be based on the characteristics of those two different categories of farms. Firstly, the establishment of the economic strategy to increase the investment activity through the involvement of private farms in the resource market and the development of profitable business, and secondly, the development of targeted investment programs to support domestic farmers with limited or in-depth resources to develop new practices and production. In addition, it is necessary to implement it in practice.

In applying the two priorities in practice, the above mentioned claim requires a strict approach from the point of view of categories of farmers. In agriculture, we believe that in promoting investment activity, priority should be given to direct involvement of existing local resources in the industry and farms.

- human capital;
- social capital;
- natural capital;
- Physical capital;
- financial capital.

In agriculture, the majority of farms with the most important agricultural development are provided with state-financed products, such as cotton and wheat, but partly to provide them with financially more productive services, but also

provide additional income to improve their livelihoods there is a lack of investment to create a resource.

One of the ways to solve this problem is to increase and develop microfinance institutions in rural areas. In this direction, many activities have been carried out in the country, and every year the number of farms sharply increases. The development of private farms depends on microfinance organizations.

While the macroeconomic policies of state-financed investments and the implementation of legal and organizational-economic mechanisms are not improved, at the regional level, the level of specialization of agricultural production is inaccessible, and the effectiveness of direct investment of farms in micro-regions is inadequate. Therefore, their sources of financing with investment funds are also reflected in the diversity of specific agricultural, natural-economic, location, specialization and social conditions

During the development of agricultural enterprises, investment activity from four of these sources is mainly provided by public funds and borrowed funds, while its own funds and foreign borrowing remain low due to the low solvency and limited capacity of households in economic activity. In the strengthening of the investment potential of agricultural entities, their sources of resources create a time-consuming period for profit-earnings, depreciation charges and other internal resources and reducing the debt, and ensures the continuity of the production process.

Analysis and results

Under the initiative and under the direct supervision of the head of our state special attention is paid to the attraction of investments of foreign countries and international financial institutions with the aim of further development of the agrarian sector of our republic, modernization of agriculture, improvement of infrastructure facilities, improvement of ameliorative condition of irrigated lands, water supply of agricultural producers.

It should be noted that for the period of 2003-2015, the total amount of credits for the sum of 1310 million US dollars from foreign countries and international financial institutions, Within the framework of 36 investment projects totaling US \$ 760.4 million. more than 1,165 different hydraulic structures, 262 km of irrigation networks were built, 274 km of inter-farm collectors, 745 km of internal waterway collectors and 553 km closed drainage systems were reconstructed.

In addition, more than 800 farmers and agricultural businesses have allocated more than \$ 75 million of soft loans to build more than 1,500 hectares of intensive gardens and vineyards; more than 200 hectares of greenhouses were built, with a

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

total capacity of more than 5,000 tons of agricultural products processing and packaging shops, refrigerated warehouses with a total capacity of more than 25,000 tonnes have been commissioned and over a thousand agricultural machinery has been procured.

According to the preliminary data, the total volume of agricultural, forestry and fishery products (services) in 2017 will reach 69 504.2 billion sums or 102.0% of the corresponding period of 2016, including in agriculture and animal husbandry, 68,906.7 billion soums (101.9 percent), forestry - 117.9 billion soums (101.6 percent), and fisheries - 479.6 billion soums (126.8 percent).

In particular, high growth rates were observed in Surkhandarya region (106.6%), Navoi (104.1%) provinces, the Republic of Karakalpakstan (103.8%) and Ferghana (103.3%) provinces. Khorezm (100.1%), Tashkent and Kashkadarya (100.8%) provinces showed lower rates. The share of Samarkand region in the total volume of agricultural, forestry and fishery products (services) of the country was 13.1% and was the leader in the regions, with the Tashkent and Andijan regions accounting for 12.1% and 10.7% in the Republic of Karakalpakstan (2.8%), Sirdarya (4.2 percent) and Jizzakh (4.9 percent) regions.

Table 1. Growth trends in the agriculture of the Republic of Uzbekistan for 1995-2017.

Indicators	1995	2000	2005	2010	2015	2017
Share of agriculture in gross domestic product	28,1	30,1	26,3	18	16,6	17,2

According to the figures, the share of agriculture in GDP in 1995 was 28.1 percent, in 2017 it was 17.2 percent, ie about 11 percent. Of course, such a tendency was caused by the reduction of agricultural land by means of ensuring the wellbeing of the population in the country and the construction of new settlements in the countryside. Over the years, this trend has continued to decline over the past few years, although its activity has dropped from 2005 to 2015. Only in 2017 the absolute level of activity increased by 0.6 percentage points.

Conclusion/Recommendations

The first of two strategies to achieve sectoral sustainability through the deepening of the economic reforms and the priority development of farms in agriculture is the provision of modern equipment directly to agriculture with the use of land and water resources, the provision of high-yield crops and yields of productive livestock high quality products by establishing a new, and, secondly, expanding the export potential of agricultural products in prison, the introduction of foreign investment in production. For this purpose, attraction of foreign investments and investment activity in agriculture should be based on the following principles:

systematic improvement of legal, socio-economic, organizational and institutional conditions ensuring the wide involvement of foreign investments into agriculture;

- development of legal and organizational and economic mechanisms of state regulation of the organization, support of the foreign economic activity of farms and dehqan farms, granting them privileges and their implementation;

- orientation of foreign investors to sectors, regions and directly agriculture, which will provide sustainable agricultural development and opportunities for producing competitive products;

- Improving the system of comprehensive assistance and promotion of agricultural entities to produce attractive and priority projects.

The implementation of these principles will serve as an important factor in attracting direct foreign investments to agriculture, increasing the investment activity of the sector and, ultimately, achieving its sustainable development.

One of the most important factors in solving the problems of agriculture in the priority development of farms is to further increase their investment activity. Investments are an important condition for strengthening the material and technical base of the sector and sustainable development of the agrarian sector. Along with implementing institutional changes in agriculture, the creation of favorable conditions for large-scale investments in agriculture, as well as large-scale investment in the sector, should form the basis of a policy that is being implemented in the current reform phase.

At present, the issue of providing qualified agriculture in the field of active investment policy in the agricultural sector plays an important role in attracting investments. We need new knowledge and experience to manage investment projects and programs, develop and evaluate business plans, find investors in crisis situations, and manage projects in a competitive environment, under conditions of relative inflation and market conjuncture. At the same time, the formation of staff by knowledge, skills, and expertise that are insufficient level will

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

have a negative impact on the development of the investment business.

In the investment policy, the following measures should be taken to provide the sector with qualified personnel:

- expansion of training of specialists in investment and innovation directions of higher education institutions on economic, technical and construction industries;

- targeted training of customers, managers and managers on investment projects and programs;

- Increasing the skills of managers of leading domestic and foreign enterprises to find partners in agricultural investment projects and filling business plans.

In order to increase investment activity in agriculture and forming favorable investment activity, the following tasks need to be addressed:

- Development of institutional market infrastructure that will enable to attract capital investment for agricultural investment;

- development of the banking banking service system and increasing the level of their capitalization;

- Improvement of organizational forms of investment attraction;

- Improvement of participation of the state and investors in their substantiation and adoption of agricultural projects;

- organization of investment information consulting and marketing;

- Establishment of the Center for implementation of investment projects in the Ministry of Agriculture;

- To transform the Social Development and Encouragement Fund of the Ministry of Agriculture of the Republic of Uzbekistan into the Fund for the Development of Material and technical basis of the Ministry of Agriculture and Water Resources of the Republic of Uzbekistan and introduction of innovative technologies, the Ministry staff.

References:

1. Mirziyoev, S. M. (2016). *Together with Erkin and Prosperity, we build democracy in Uzbekistan. Speech at the Joint Session of the Oliy Majlis on the solemn ceremony at the Presidential Palace.* Mirziyoev. (p.15). Tashkent: NMIU of Uzbekistan.
2. Weber, M. (2001). *the Agrarian History of the Ancient World / Weber.* (p.429). Moscow: Canon C-Press.
3. Steve Padgett Vásquez (2017). Forest cover, development, and sustainability in Costa Rica: Can one policy fit all? *Land Use Policy. Volume 67*, 212–221.
4. Jaap Jan Schröder (2014). The Position of Mineral Nitrogen Fertilizer in Efficient Use of Nitrogen and Land: A Review. *Natural Resources Vol.05 No.15*, 12.
5. Dunstan Gabriel Msuya (2013). Farming systems and crop-livestock land use consensus. *Open Journal of Ecology. Vol.3 No.7*, 9.
6. Mohamed Ali Mohamed (2014). Monitoring of Temporal and Spatial Changes of Land Use and Land Cover in Metropolitan Regions through Remote Sensing and GIS. *Natural Resources. Vol.05 No.15, Article ID: 52650*, 12.
7. Tilman, D., Cassman, K.G., Matson, P.A., Naylor, R., & Polasky, S. (2002). Agricultural Sustainability and Intensive Production Practices. *Nature*, 418, 671-677.
8. Kotschi, J. (2013). *a Soiled Reputation: Adverse Impacts of Mineral Fertilizers in Tropical Agriculture.* Commissioned by World Wildlife Fund (Germany) to Heinrich BöllStiftung, 58 p.
9. Gerbens-Leenes, P. W., & Nonhebel, S. (2002). Consumption Patterns and Their Effects on Land Required for Food. *Ecological Economics*, 42, 185-199.
10. Oleson, J. E., & Bindi, M. (2002). Consequences of Climate Change for European Agricultural Productivity, Land Use and Policy. *European Journal of Agronomy*, 16, 239-262.
11. Lin Tsfu, Tsoy Fan, & Li Chjou (2001). *Chinese miracle: economical reform, strategy development.* (p.68). Moscow.
12. Buzdalov, I. N. (2000). *Agrarnaya reforma in Russia (concepts, experience, prospects).* (p.325). Moscow.
13. Sandu, I. S. (1990). *Proizvodstvennye i nauchno-proizvodstvennye sistemy - effektivnaya forma integratsii nauki i proizvodstva.* (p.73). Moscow.
14. Djanibekova, U., & Fingerb, R. (2018). Agricultural risks and farm land consolidation process in transition countries: The case of cotton production in Uzbekistan. *Agricultural Systems*, 164, 223–235
<https://www.sciencedirect.com/>

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350

15. Abduganiev, A. (2007). *Agricultural Economics*. (p.340). Tashkent: Literature Fund.
16. Juraev, A. M., & Husanov, R. K. (2002). *Agrarnaya reforma: theory, practice, problemy* (p.766). Tashkent: Uzbekistan.
17. Husanov, R. X., & Dustmurodov, R. (2008). *Experience of Andijan in the development of agriculture*. (p.49). Tashkent: New generation generation.
18. Choriev, Q. A., & Hushmatov, N. S. (2002). *Planned dehkan and farming activities*. (p.132). Tashkent: East.
19. Umarov, S. R. (2008). *Attracting investment in agriculture and their efficient use: i.f.n. science narrow ol.uchun diss Autoreference: BMA*. (p.22). Tashkent.
20. Tukhtayeva, S. (2005). *Efficiency of investment attraction in the conditions of deepening of economic reforms in agriculture. scientific narrow Become diss Autoreference*. (p.18). Tashkent.
21. Shakhriyorov, B. T. (2006). *The main directions of increasing the investment activity in agriculture*. Dissertation abstract for obtaining the academic degree. (p.16). Tashkent.
22. Maxmudova, G. N. (2010). *Directions for increasing the efficiency of investment in the agrarian sector*. Dissertation abstract for obtaining the academic degree. (p.24). Tashkent.

Impact Factor:	ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

Impact Factor:	ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 0.829	PIHII (Russia) = 0.156	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

Contents

		p.
30.	Chemezov, D., et al. Isosurfaces of mechanical stresses in cantilever and doubly supported steel I-beams subject to bending.	301-339
31.	Miyarov, A. I. Legal aspect of state relations and religious association in the social concept of religious organization.	340-343
32.	Sholdarov, D. , & Mullaboev, B. Problems of supporting financial stability of the pension supply system in Uzbekistan.	344-349
33.	Ismatov, R. O., Dadaboev, T. Y., & Karabaev, S. A. Investment possibilities in agricultural networks.	350-355

Impact Factor:	ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 0.829	PIHHЦ (Russia) = 0.156	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	ПИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

**Scientific publication**

«ISJ Theoretical & Applied Science, USA» - Международный научный журнал зарегистрированный во Франции, и выходящий в электронном и печатном формате. **Препринт** журнала публикуется на сайте по мере поступления статей.

Все поданные авторами статьи в течении 1-го дня размещаются на сайте <http://T-Science.org>.

Печатный экземпляр рассылается авторам в течение 2-4 дней после 30 числа каждого месяца.

Импакт фактор журнала

Impact Factor	2013	2014	2015	2016	2017	2018	2019
Impact Factor JIF		1.500					
Impact Factor ISRA (India)		1.344				3.117	
Impact Factor ISI (Dubai, UAE) based on International Citation Report (ICR)	0.307	0.829					
Impact Factor GIF (Australia)	0.356	0.453	0.564				
Impact Factor SIS (USA)	0.438	0.912					
Impact Factor ПИИЦ (Russia)		0.179	0.224	0.207	0.156		
Impact Factor ESJI (KZ) based on Eurasian Citation Report (ECR)		1.042	1.950	3.860	4.102	6.015	8.716
Impact Factor SJIF (Morocco)		2.031				5.667	
Impact Factor ICV (Poland)		6.630					
Impact Factor PIF (India)		1.619	1.940				
Impact Factor IBI (India)			4.260				
Impact Factor OAJI (USA)						0.350	

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHC (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

INDEXING METADATA OF ARTICLES IN SCIENTOMETRIC BASES:



International Scientific Indexing ISI (Dubai, UAE)
<http://isindexing.com/isi/journaldetails.php?id=327>



Research Bible (Japan)
<http://journalseeker.researchbib.com/?action=viewJournalDetails&issn=23084944&uid=rd1775>



PIHHC (Russia)
<http://elibrary.ru/contents.asp?issueid=1246197>



Turk Egitim Indeksi (Turkey)
<http://www.turkegitimindeksi.com/Journals.aspx?ID=149>



DOI (USA)
<http://www.doi.org>



Open Academic Journals Index (Russia)
<http://oaji.net/journal-detail.html?number=679>



Japan Link Center (Japan) <https://japanlinkcenter.org>



Kudos Innovations, Ltd. (USA)
<https://www.growkudos.com>



Cl.An. // THOMSON REUTERS, EndNote (USA)
<https://www.myendnoteweb.com/EndNoteWeb.html>



Scientific Object Identifier (SOI)
<http://s-o-i.org/>



Google Scholar (USA)
http://scholar.google.ru/scholar?q=Theoretical+science.org&btnG=&hl=ru&as_sdt=0%2C5



Directory of abstract indexing for Journals
<http://www.daij.org/journal-detail.php?jid=94>



CrossRef (USA)
<http://doi.crossref.org>



Collective IP (USA)
<https://www.collectiveip.com/>



PFTS Europe/Rebus:list (United Kingdom)
<http://www.rebuslist.com>



Korean Federation of Science and Technology Societies (Korea)
<http://www.kofst.or.kr>

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIIHQ (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.716	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667	OAJI (USA)	= 0.350



AcademicKeys (Connecticut, USA)

http://sciences.academickeys.com/jour_main.php



Cl.An. // THOMSON REUTERS, ResearcherID (USA)

<http://www.researcherid.com/rid/N-7988-2013>



RedLink (Canada)

<https://www.redlink.com/>



TDNet

Library & Information Center Solutions (USA)

<http://www.tdnet.io/>



RefME (USA & UK)

<https://www.refme.com>



Sherpa Romeo (United Kingdom)

<http://www.sherpa.ac.uk/romeo/search.php?source=journal&sourceid=28772>



Cl.An. // THOMSON REUTERS, ORCID (USA)

<http://orcid.org/0000-0002-7689-4157>



Yewno (USA & UK)

<http://yewno.com/>



Stratified Medical Ltd. (London, United Kingdom)

<http://www.stratifiedmedical.com/>

THE SCIENTIFIC JOURNAL IS INDEXED IN SCIENTOMETRIC BASES:



Advanced Sciences Index (Germany)

<http://journal-index.org/>



Global Impact Factor (Australia)

<http://globalimpactfactor.com/?type=issn&s=2308-4944&submit=Submit>



SCIENTIFIC INDEXING SERVICE (USA)

<http://sindexs.org/JournalList.aspx?ID=202>



International Society for Research Activity (India)

<http://www.israjif.org/single.php?did=2308-4944>

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350



CiteFactor
Academic Scientific Journals

CiteFactor (USA) Directory Indexing of International Research Journals

<http://www.citefactor.org/journal/index/11362/theoretical-applied-science>



International Institute of Organized Research (India)

<http://www.i2or.com/indexed-journals.html>



JIFACTOR

JIFACTOR

http://www.jifactor.org/journal_view.php?journal_id=2073



Journal Index

<http://journalindex.net/?qi=Theoretical+%26+Applied+Science>



Eurasian Scientific Journal Index (Kazakhstan)

<http://esjindex.org/search.php?id=1>



SJIF Impact Factor (Morocco)

<http://sjifactor.inno-space.net/passport.php?id=18062>



InfoBase Index (India)

<http://infobaseindex.com>



Open Access
JOURNALS

Open Access Journals

<http://www.oajournals.info/>



Indian Citation Index

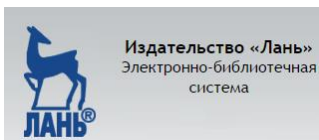
Indian citation index (India)

<http://www.indiancitationindex.com/>



Index Copernicus International (Warsaw, Poland)

<http://journals.indexcopernicus.com/masterlist.php?q=2308-4944>



Электронно-библиотечная система «Издательства «Лань» (Russia)

<http://e.lanbook.com/journal/>

Impact Factor:	ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 0.829	PIHHЦ (Russia) = 0.156	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

Impact Factor:	ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 0.829	PIHII (Russia) = 0.156	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.716	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 5.667	OAJI (USA) = 0.350

Signed in print: 28.02.2019. Size 60x84 $\frac{1}{8}$

«Theoretical & Applied Science» (USA, Sweden, KZ)
 Scientific publication, p.sh. 22.75. Edition of 90 copies.
<http://T-Science.org> E-mail: T-Science@mail.ru

Printed «Theoretical & Applied Science»