# PARVEEN KUMAR SCIENTIST, WIHG, DEHRADUN, INDIA



Google Scholar Page: <a href="https://scholar.google.com/citations?user=Udjq4JIAAAAJ">https://scholar.google.com/citations?user=Udjq4JIAAAAJ</a>

 RESEARCH GROUP:
 GEOPHYSICS

 FIELD OF SPECIALIZATION:
 STRONG MOTION SEISMOLOGY; GEO HAZARD/EARTHQUAKE

 HAZARD EVALUATION: ENGINEERING SEISMOLOGY

## **EDUCATION:**

2014 Ph.D. Earth Sciences Dept., Indian Institute of Technology, Roorkee, India

2009 M.Tech. Applied Geophysics from Kurukshetra University, Kurukshetra (KUK)

2006 Graduation from Govt. P.G. College, Karnal affiliated to KUK

## **PROFESSIONAL EXPERIENCE:**

01/01/2023 – Till date	Scientist-'D', WIHG, Dehradun
24/08/2018 - 31/12/2022	Scientist-'C', WIHG, Dehradun
24/08/2015 - 23/08/2018	Scientist-'B', WIHG, Dehradun

### **VISITING POSITIONS:**

Visiting Scholar/Faculty during 2023 (September to December) at Department of Earth sciences, University of Oregon, Eugene, Oregon, USA.

### **TEACHING EXPERIENCE:**

Assistant Professor (Honorary) in Academy of Scientific & Innovative Research (AcSIR), India since 2020

### **SERVICES:**

a. Supervision to Ph.D. Students:	Two (Awarded)	
b. Training:	Seven Dissertation (Master students) Fourteen Summer/Winter Trainee (Master and Graduate students)	
c. Teaching:	Ph.D. Scholars (Course-work) of AcSIR, India since 2020	
d. Membership:	Life Membership of Indian Society of Earthquake Science	
e. Editorial Board:	-NA-	
f. International/National Seminars:	Convener of 4 <sup>th</sup> National Geo-Research Scholar Meet June 2020 Convener of 5 <sup>th</sup> National Geo-Research Scholar Meet July 2021	

## g. External Research Fund received & Project Handled:

- External funded project entitled "Three Dimensional Attenuation tomography from strong ground motion data for Garhwal region, India" is received as principal investigator (PI) through funding agency 'Science and Engineering Research Board', Department of Science and Technology, Govt. of India. (Budget Rs. ~19.6 Lakh)
- External funded project entitled "Advancement of the attenuation tomography scheme from inversion of strong motion data: A tool for seismic hazard evaluation" is received as principal investigator (PI) through funding agency 'Science and Engineering Research Board', Department of Science and Technology, Govt. of India. (Budget Rs. ~13 Lakh)
- Consultancy Project entitled "Geophysical Investigation along with the alignment of silt flushing tunnel (SFT) at Tapovan Vishnugad, NTPC, TVHPP, Joshimath" is received as team member funded by National Thermal Power Corporation (NTPC), India. (Budget Rs. ~12 Lakh)
- h. Member of important Committees: WIHG's internal committees

## AWARDS/FELLOWSHIPS/HONORS/MEMORIAL LECTURES:

a. Awards/Medals/Prizes:	-NA-	
b. Fellowships:	Post-Doctoral Fellowship (PDF) (UGC Sponsored:- Dr. D.S. Kothari Post-Doc Fellowship)- in 2015	
c. Memorial Lectures:	-NA-	
d. Recognition/Honors:	<ol> <li>SERB International Research Experience (SIRE) Awardee</li> <li>Alexander von Humboldt Foundation grant to foreign visit</li> </ol>	

### **COUNTRIES VISITED:**

- USA, Department of Earth sciences, University of Oregon, Eugene, Oregon, USA visited as a Short term scholar/faculty.
- Germany, Leibniz institute for Applied Geophysics, Hannover, Germany under short term visit program.

### NATIONAL/INTERNATIONAL COLLABORATION:

a. International:	Department of Earth sciences, University of Oregon, Eugene, Oregon state, USA
b. National:	<ol> <li>Department of Earth sciences, IIT Roorkee, India,</li> <li>Department of Geophysics, BHU, Varanasi, Inida</li> </ol>
c. Inside WIHG Collaborator:	Colleague Scientists/technical staff of WIHG
PATENT:	-NA-
SCHOLARSHIPS AWARDED:	<ol> <li>SERB International Research Experience (SIRE)</li> <li>Dr. D.S. Kothari Post-Doc Fellowship</li> </ol>

PH.D. ADVISOR:		Two (Awarded)
1.	Candidate Name: Ph.D. Title:	Richa Kumari Investigation of various crustal parameters of Kinnaur Himalaya using Seismological Data
	Date of award:	August 2022
2.	Candidate Name: Ph.D. Title:	Monika Attenuation studies of Uttarakhand Himalaya and its implication in strong motion simulation
	Date of award:	July 2023

## LIST OF PUBLICATIONS:

a)	SCI Papers:	34 (Annexure I)
b)	Non-SCI Articles:	1 (Annexure II)
c)	Chapter in Books:	5 (Annexure III)
d)	Books-authored/Edited volume:	1 (Annexure IV)
e)	Abstract volume:	25 (Annexure V)
f)	Reports/Other Documents:	4 (Annexure VI)
g)	Articles in Proceeding Volumes:	2 (Annexure VII)

### (a) SCI Papers:

#### Annexure I

- [1] Monika, Sandeep, Parveen Kumar<sup>e</sup>, Sonia Devi, A. Joshi (2023) Modeling of 1991 Uttarkashi and 2011 Indo–Nepal earthquakes using the modified semi-empirical technique by integrating site-specific Quality factor. Journal of Earth System Science, DOI : 10.1007/s12040-023-02201-2. <sup>c</sup> corresponding author
- [2] Anil Tiwari, Parveen Kumar, Kalachand Sain and Ajay Paul (2023) Possible implications of recent Doti-Nepal earthquake (M 6.3) for seismicity monitoring in the Central Himalaya, Himalayan Geology, 44 (2): 57-63.
- [3] Sandeep, Sonia Devi, **Parveen Kumar**, Monika and Rohtash Kumar (2022) Strong Motion Modelling of the 1999 Izmit Earthquake Using Site Effect in a Semi-Empirical Technique: A More Realistic Approach, Pure and Applied Geophysics, 179, 483-497.
- [4] Sonia Devi, Sandeep, **Parveen Kumar**, Monika, A. Joshi (2022) Modelling of 2016 Kumamoto earthquake by integrating site effect in semi-empirical technique, Natural Hazards, 111, 1931-1950.
- [5] Richa Kumari, **Parveen Kumar**c, Naresh Kumar, Sandeep (2021) Implications of site effects and attenuation properties for the estimation of earthquake source characteristics in Kinnaur Himalaya, India. Pure and applied Geophysics, 178, 4345–4366. <sup>c</sup> corresponding author

- [6] Sonia Devi, Sandeep, Parveen Kumar and Monika (2021) Strong-Motion Simulation of the 1988 Indo-Burma and Scenario Earthquakes in NE India by Integrating Site Effects in a Semi-Empirical Technique, Pure and Applied Geophysics, 178, 2839–2854.
- [7] Parveen Kumar, Monika, Sandeep, Sushil Kumar, Richa Kumari, Dinesh Kumar, Narendra Kumar (2021) Characterization of shear wave attenuation and site effects in the Garhwal Himalaya, India from inversion of strong motion records, J Earth Sys Sci., 130: 186, 1-19.
- [8] Sandeep Kumar, Vikram Gupta, **Parveen Kumar** and YP Sundriyal (2021) Coseismic landslide hazard assessment for the future scenario earthquakes in the Kumaun Himalaya, India, Bulletin of Engineering Geology and the Environment, 80, 5219–5235.
- [9] Narendra Kumar, Kailash Kumar Gautam, Minakshi Mishra, Sushil Kumar, **Parveen Kumar** (2021) Upper mantle anisotropy from shear wave splitting of teleseismic earthquakes in the Kumaun-Garhwal and adjoining area of NW Himalaya, Journal of Asian Earth Sciences, 5 (100054): 1-9.
- [10] Richa Kumari, Parveen Kumar<sup>c</sup>, Naresh Kumar, Sandeep (2020) Role of Site Effect for the evaluation of Attenuation characteristics of P, S and coda waves in Kinnaur region, NW Himalaya, J Earth Sys Sci., 129:191, 1-18.
  <sup>c</sup> corresponding author
- [11] Sandeep, A. Joshi, P. Kumari, Parveen Kumar, S.K. Sah, S. Lal, N. P. Singh (2020) Strong ground motion simulation techniques—a review in world context, Arabian Journal of Geosciences, 13(673), 1-12.
- [12] Monika, **Parveen Kumar**<sup>c</sup>, Sandeep, Sushil Kumar, A. Joshi, Sonia Devi (2020) Spatial variability studies of attenuation characteristics of  $Q_{\alpha}$  and  $Q_{\beta}$  in Kumaon and Garhwal region of NW Himalaya, Natural Hazards, 103: 1219-1237. <sup>c</sup> corresponding author
- [13] Sandeep, A. Joshi, S. K. Sah, Parveen Kumar<sup>e</sup>, Sohan lal, Sonia Devi, Monika (2019) Modeling of 2011 Indo Nepal Earthquake and Scenario Earthquakes in the Kumaon Region and Comparative Attenuation Study Using PGA Distribution with the Garhwal Region. Pure and Applied Geophysics, 176 (11): 4687 - 4700. <sup>c</sup> corresponding author
- [14] Rajinder Parshad, Parveen Kumar<sup>c</sup>, Snehmani, P. K. Srivastva (2019) Seismically induced snow avalanches at Nubra–Shyok region of Western Himalaya, India. Natural Hazards, 99: 843-855. <sup>c</sup> corresponding author
- [15] Parveen Kumar, Sonia Devi, Monika, Abhyuday Srivastava, Sandeep, A. Joshi, Richa Kumari (2019) Site response study based on H/V method using S-wave: A case study in the Kumaon Himalaya, India. Himalayan Geology, 40(2), 213-219.
- [16] Sandeep, A. Joshi, Sonia Devi, Parveen Kumar<sup>c</sup>, S K Sah, Sohan Lal and Kamal (2019) Strong motion generation area modelling of the 2008 Iwate earthquake, Japan using modified semi-empirical technique. Journal of Earth System Science, 128:202, 1-16. <sup>c</sup> corresponding author
- [17] Sandeep, A. Joshi, S K Sah, Parveen Kumar<sup>c</sup>, Sohan Lal and Kamal (2019) Modelling of strong motion generation areas for a great earthquake in central seismic gap region of Himalayas using the modified semi-empirical approach. Journal of Earth System Science, 128:100, 1-12. <sup>c</sup> corresponding author

- [18] Sohan Lal, A. Joshi, Sandeep, Monu Tomer, Parveen Kumar, Chun-Hsiang Kuo, Che-Min Lin, Kuo-Liang Wen, M. L. Sharma (2018) Modeling of the strong ground motion of 25th April 2015 Nepal earthquake using modified semi-empirical technique. Acta Geophysica Vol. 66(<u>4</u>), 461–477.
- [19] Rakesh Singh, Ajay Paul, Arjun Kumar, Parveen Kumar, Y.P. Sundriyal (2018) Estimation and applicability of attenuation characteristics for source parameters and scaling relations in the Garhwal Kumaun Himalaya region, India. Journal of Asian Earth Sciences, vol. 159, 42–59.
- [20] **Parveen Kumar**, A. Joshi, Sushil Kumar, Sandeep, Sohan Lal (2018), Determination of site effect and anelastic attenuation at Kathmandu, Nepal Himalaya region and its use in estimation of source parameters of 25 April 2015 Nepal earthquake Mw = 7.8 and its aftershocks including the 12 May 2015 Mw = 7.3 event. Natural Hazards, vol. 91, 1003–1023.
- [21] Sandeep, A. Joshi, Sohan Lal, Parveen Kumar, S. K. Sah, Vandana, Kamal (2017), Simulation of Strong Ground Motion of the 2009 Bhutan Earthquake Using Modified Semi-Empirical Technique. Pure and Applied Geophysics, vol. 174, 4343–4356.
- [22] Sandeep, A. Joshi, S.K. Sah, Parveen Kumar, Sohan Lal, Vandanad, Kamal, R.S. Singh (2017), Source model estimation of the 2005 Kyushu Earthquake, Japan using Modified Semi Empirical Technique. Journal of Asian Earth Sciences, vol. 147, 240–253.
- [23] Sandeep, A. Joshi, P. Kumari, S. Lal, Vandana, Parveen Kumar and Kamal (2017), Emergence of the Semi-Empirical Technique of Strong Ground Motion Simulation: A Review. Journal of the Geological Society of India vol. 89(6), 719-722.
- [24] Rajinder Parshad, Snehmani, Parveen Kumar, P.K.Srivastva and A.Ganju, (2017), Attenuation of coda waves in the Nubra-Siachen region, Himalaya, India. Journal of the Geological Society of India, vol. 89(5), 497-502.
- [25] Naresh Kumar, Parveen Kumar<sup>c</sup>, Vishal Chauhan, Devajit Hazarika (2017) Variable anelastic attenuation and site effect in estimating source parameters of various major earthquakes including Mw 7.8 Nepal and Mw 7.5 Hindu kush earthquake by using far-field strong-motion data. International Journal of Earth Sciences, 106:2371–2386. <sup>c</sup> corresponding author
- [26] Parveen Kumar, A. Joshi, Sandeep, Ashvini Kumar and R. K. Chadha (2015), Detailed attenuation characteristics of shear waves in Kumaon Himalaya, India using the inversion of strong motion data. Bulletin of the Seismological Society of America, vol. 105(4), 1836–1851.
- [27] Sandeep, A. Joshi, Kamal, Parveen Kumar, Ashvini Kumar and Piu Dhibar, (2015), Modeling of strong motion generation areas of the Niigata, Japan, earthquake of 2007 using modified semiempirical technique. Natural Hazards, vol. 77, 933–957.
- [28] Ashvini Kumar, A Sinvhal, A Joshi, D. Kumar, Sandeep and Parveen Kumar (2015), Coda wave attenuation characteristics for Kumaon and Garhwal Himalaya, India. Natural Hazards, vol. 75:1057–1074.
- [29] Parveen Kumar and A. Joshi, Sandeep and Ashvini Kumar (2015), Three-dimensional attenuation structure in the region of Kumaon Himalaya, India based on inversion of strong motion data. Pure and applied Geophysics, 172(2), 333-358.
- [30] A. Joshi, Parveen Kumar<sup>c</sup> and S. Arora, (2014), Use of site amplification, anelastic attenuation for determination of source parameters of the Sikkim earthquake of 18 September, 2011 using far field strong motion data. Natural Hazards, 70, 217-235. <sup>c</sup> corresponding author

- [31] Sandeep, A. Joshi, Kamal, **Parveen Kumar**, Ashvini Kumar (2014), Effect of frequency- dependent radiation pattern in the strong motion simulation of the 2011 Tohoku, Japan earthquake using modified semi-empirical method. Natural Hazards, vol. 73, 1499–1521.
- [32] Sandeep, A. Joshi, Kamal, **Parveen Kumar**, Pushpa Kumari (2014), Modeling of strong motion generation area of the Uttarkashi earthquake using modified semi-empirical approach. Natural Hazards, vol. 73, 2041–2066.
- [33] **Parveen Kumar**, A. Joshi and O. P. Verma, (2013), Attenuation tomography based on strong motion data: Case study of central Honshu region, Japan. Pure and applied Geophysics, vol. 170, 2087-2106.
- [34] A. Joshi, P. Kumar, M. Mohanty, A. R. Bansal, V. P. Dimri, and R. K. Chadha, (2012), Determination of  $Q_{\beta}(f)$  in different parts of Kumaon Himalaya from the inversion of spectral acceleration data. Pure and applied Geophysics, vol. 169, 1821-1845.

### (b) Non-SCI Articles:

Annexure II

Annexure III

[1] प्रवीण कुमार सैनी (2021) हिमालय क्षेत्र में भूकंप से बचाव की तैयारी का महत्व, अश्मिका पत्रिका

### (c) Chapter in Books:

- [1] Sandeep Kumar, **Parveen Kumar**, Sameeksha Kaushik, Yaspal Sundriyal, Vikram Gupta (2023) "Spatial prediction of earthquake-induced landslide susceptible zones - A case study from Indian Himalaya" in 'Geohazards: Analysis, Modelling and Forecasting' publisher Springer, 9: 125-135.
- [2] **Parveen Kumar**, Sandeep, Monika (2023) Estimation and Validation of arias intensity relation using the 1991 Uttarkashi and 1999 Chamoli earthquakes data, Book chapter 'Recent Developments in Earthquake Seismology' publisher Springer (Accepted).
- [3] **Parveen Kumar**, Sandeep and Monika (2022) Assessment of Site Amplification Using Borehole and Surface Data: Variability of Site Effect Estimation from Different Phases of the Accelerogram, Geohazard Mitigation, Springer, Vol. 192, Pages No. 317-331. DOI : 10.1007/978-981-16-6140-2.
- [4] **Parveen Kumar** and Sandeep (2020) A review on Geophysical parameters comparison in Garhwal and Kumaun Himalaya region, India, Basics of Computational Geophysics 1<sup>st</sup> Edit., Elsevier, 95-103.
- [5] Sandeep, **Parveen Kumar**, A. Joshi (2020) Emerging Techniques to Simulate Strong Ground Motion, Basics of Computational Geophysics 1st Edition, Elsevier, 33-46.

### (d) Books-authored/Edited volume: Annexure IV

 Sandeep, Parveen Kumar, Himanshu Mittal, Roshan Kumar (eds) (2023) "Geohazards: Analysis, Modelling and Forecasting" series of Advances in Natural and Technological Hazards Research. Publisher- Springer. Vol 53, ISSN 1878-9897 and ISSN 2213-6959 (electronic). (Edited Jointly)

### (e) Abstract volume:

[1] Richa Kumari, Naresh Kumar, **Parveen Kumar** and Sandep (2021) 1 D body wave velocity structure of the Kinnaur and Surrounding region, Himachal Himalaya, India: seismotectonic implications based on micro earthquake data, American Geophysical Union (AGU) 13-17 December 2021.

Annexure V

- [2] Monika, Parveen Kumar, Sandeep, Sonia Devi and Sushil Kumar (2021) Applicability of site effect and anelastic attenuation for the simulation of strong ground motion: Case study of 2017 Mw 5.3 earthquake in Garhwal Himalaya, India, 2<sup>nd</sup> International Virtual Workshop on Global Seismology & Tectonics organised by CSIR- North East Institute of Science and Technology, Jorhat Assam during 20 to 30<sup>th</sup> September 2021, Page No. 53.
- [3] Sonia Devi, Sandeep, Parveen Kumar, Monika and A. Joshi (2021) Modification of Semi Empirical Technique of strong motion simulation to include site effect, 2<sup>nd</sup> International Virtual Workshop on Global Seismology & Tectonics organised by CSIR- North East Institute of Science and Technology, Jorhat Assam during 20 to 30<sup>th</sup> September 2021, Page No. 67.
- [4] Richa Kumari, Parveen Kumar, Naresh Kumar, Sandeep (2021) Use of site amplification for the estimation of earthquake source parameters in the Kinnaur Northwest Himalaya, 57<sup>th</sup> annual convention of India Geophysical Union on Sustainable Geosciences & Blue Economy 2-4 February 2021 at CSIR-National Institute of Oceanography through virtual mode.
- [5] Monika, Parveen Kumar, Sushil Kumar, Sandeep, Richa Kumari (2019) Use of site effect for the determination of source parameters of local earthquakes in Garhwal Himalaya, India. 3<sup>rd</sup> National Geo-Research Scholars meet, WIHG, Dehradun 6-8 June 2019, Page No. 147.
- [6] Sonia Devi, Sandeep, Parveen Kumar, Monika (2019) Estimation of Site response by H/V method for the 2016 Kumamoto earthquake. 3<sup>rd</sup> National Geo-Research Scholars meet, WIHG, Dehradun 6-8 June 2019, Page No. 123.
- [7] Sandeep Kumar, Vikram Gupta and Parveen Kumar (2019) Landslide Susceptibility assessment using GIS-based multiple statistical approaches in the Goriganga river basin, Kumaun Himalaya. 3<sup>rd</sup> National Geo-Research Scholars meet, WIHG, Dehradun 6-8 June 2019, Page No. 129.
- [8] Richa Kumari, Parveen Kumar, Naresh Kumar, Sandeep (2019) Role of Site Effect for the assessment of Attenuation characteristics in Kinnaur, NW Himalaya India, 3<sup>rd</sup> National Geo-Research Scholars meet, WIHG, Dehradun 6-8 June 2019, Page No. 132.
- [9] Richa Kumari, Parveen Kumar, Naresh Kumar, Sandeep, Monika (2018) Attenuation characteristics of Coda wave of local earthquakes in Kinnaur region of North-West Himalaya, India. 55<sup>th</sup> annual convention of India Geophysical Union on Changing water cycle & water resources 5-7 December at Bhopal, 75.
- [10] Monika, **Parveen Kumar**, Sandeep, Sushil Kumar, A. Joshi, Richa Kumari (2018) Estimation of  $Q_{\alpha}$  and  $Q_{\beta}$  of Garhwal and Kumaun Himalaya, India: A comparative study. 55<sup>th</sup> annual convention of India Geophysical Union on Changing water cycle & water resources 5-7 December at Bhopal, 10.
- [11] Ankush, Vishal Singh Rawat, S.S. Teotia, Parveen Kumar, A. Joshi (2018) Crustal anisotrophy in Kumaon region, Uttarakhand: Shear wave splitting using local earthquake events. 55<sup>th</sup> annual convention of India Geophysical Union on Changing water cycle & water resources 5-7 December at Bhopal, 37.
- [12] Parveen Kumar, Sandeep, Abhyuday Srivastava, A. Joshi (2018) Site response study based on H/V method using strong motion data: Case study of Kumaon Himalaya, India. National Conference on Earth System Science with special reference to Himalaya: Advancement and Challenges, WIHG, Dehradun 16-18 May 2018, 145.
- [13] Sohan Lal, Anand Joshi, Sandeep, Parveen Kumar, (2017) Shallow Subsurface Velocity Structure using the Ambient Noise for the Garhwal and Kumaon Himalaya. AGU 11-15 December 2017, New Orleans, USA
- [14] Sandeep, A.Joshi, S.K. Sah, Parveen Kumar, Sohan Lal, R.S. Singh, (2017) Modelling of SGMAs of the 2005 Kyushu earthquake, Japan using modified semi empirical technique. 2<sup>nd</sup> National Geo-Research Scholars meet, WIHG, Dehradun 17-20 May 2017.

- [15] Rakesh Singh, Ajay Paul, Arjun Kumar, Parveen Kumar, Y.P. Sundriyal, (2017) Investigating of source parameters and radiated energy of local earthquakes in Garhwal-Kumaun region, NW Himalaya. 2<sup>nd</sup> National Geo-Research Scholars meet, WIHG, Dehradun 17-20 May 2017.
- [16] Sohal lal, A. Joshi, Parveen Kumar, Deepak Kumar, (2016) Source Parameters of the Aftershock (M<sub>w</sub> = 6.9) of Nepal earthquake. National Geo-Research Scholars meet, WIHG, Dehradun 1-4 June 2016.
- [17] Sandeep, S. K. Sah, A. Joshi, Sohan Lal, Parveen Kumar, Kamal (2016) Estimation of source model of the 2009 Bhutan earthquake using modified semi empirical technique. National conference and 33<sup>rd</sup> convention of Indian association of sedimentologists with emphasis on energy resources and climate change, Department of Geology, BHU, Varanasi 12-14 November 2016, 139
- [18] Sandeep, Parveen Kumar, Koushik Salui, Abhishek Sharma, S.K.Sah (2016) Site Amplification effects at Surface and Borewell Recording Sites of Japan using H/V Method. 1<sup>st</sup> Triennial Congress of FIGA, 53<sup>rd</sup> Annual Convention of IGU & 34<sup>th</sup> Annual Convention of AHI on Geosciences for sustainability, IIT (ISM), Dhanbad 8-10 November 2016, 25
- [19] Sandeep, Abhishek Sharma, Parveen Kumar, Koushik Salui, Sohan Lal (2016) Estimation of Site Amplification During the 1991 Uttarkashi Earthquake using H/V Method. 1<sup>st</sup> Triennial Congress of FIGA, 53<sup>rd</sup> Annual Convention of IGU & 34<sup>th</sup> Annual Convention of AHI on Geosciences for sustainability, IIT (ISM), Dhanbad 8-10 November 2016, 102
- [20] Ashvini Kumar, A. Joshi, Sandeep, Parveen Kumar, Azad Kumar (2014) Estimation of attenuation characteristicks using frequency dependent coda wave quality factor of the Niigata prefecture region, Japan. 51st Annual Convention of Indian Geophysical Union on Earth Sciences and Society, India 19-21 November 2014, 142.
- [21] Sandeep, A. Joshi, Kamal, Parveen Kumar, Ashvini Kumar (2014) Strong Motion Generation Area modeling of the 2011 Tohoku earthquake using modified semi-empirical technique, 51<sup>st</sup> annual convention of Indian Geophysical Union on Earth Sciences and Society, India.
- [22] Parveen Kumar, A. Joshi, Dinesh Kumar, S. S. Teotia, Ashvini Kumar, Sandeep (2014), Characterization of shear wave attenuation in the Central Honshu region, Japan from the inversion of strong motion records, 51<sup>st</sup> annual convention of Indian Geophysical Union.
- [23] Parveen Kumar and A. Joshi, (2013), Regional velocity model in Kumaon Himalaya from localization of strong motion events, National conference on Earth Sciences in India: challenges and emerging trends.
- [24] **Parveen Kumar** and A. Joshi, (2013), Stability of algorithm for determination of three-dimensional attenuation structures, International conference on Challenges in Disaster mitigation and Management.
- [25] **Parveen Kumar** and A. Joshi, (2012), Attenuation tomography of Kumaon Himalaya in Pithoragarh region using strong motion data, Nation conference on Engineering Geophysics for Civil Engineering and Geo-Hazards 22-23 November.

### (f) Reports/Other Documents:

### Annexure VI

- [1] Project completion report of sponsored project entitled "Advancement of the attenuation tomography scheme from inversion of strong motion data: A tool for seismic hazard evaluation" submitted to 'Science and Engineering Research Board', Department of Science and Technology, Govt. of India. (2023)
- [2] Contributed to the report entitled "Study of ground subsidence in Joshimath following the events of January 2023 submitted to Uttarakhand state Disaster Management Authority. (2023)
- [3] Project completion report of sponsored project entitled "Three Dimensional Attenuation tomography from strong ground motion data for Garhwal region, India" submitted to 'Science and Engineering Research Board', Department of Science and Technology, Govt. of India (2021)

[4] Report of Consultancy Project entitled "Geophysical Investigation along with the alignment of silt flushing tunnel (SFT) at Tapovan Vishnugad, NTPC, TVHPP, Joshimath" is received as team member funded by National Thermal Power Corporation (NTPC), India (2018).

### (g) Articles in Proceeding Volumes: Annexure VII

- [1] Sucheta Das, Sandeep, Sonia Devi, H. Mittal, Parveen Kumar, Monika (2023) Spatial Distribution of Stress Orientation by Inversion of Focal Mechanism Solutions Using MSATSI: A Case Study Across Japan Trench in the 'Proceeding of 17<sup>th</sup> symposium on earthquake engineering at IITR' vol-4, 243-256.
- [2] Sandeep, A. Joshi, P. Kumar, S. Lal, Kamal and S. K. Sah (2018) Modelling of Strong Motion Generation Areas of the 2005 Kyushu Earthquake using Modified Semi Empirical Technique, 16<sup>th</sup> Symposium on Earthquake Engineering December 20-22, IIT Roorkee.