

Dr. Kalpana Singh

Deptt. Of Physics

Career Convent Girls P.G. College Lucknow.

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Email: ksinghknit1985@gmail.com**Supporting Statement**

After my Master program (2005) in physics from A.P. S. University, Rewa M.P. India. I joined Ph.D. program same University, under the supervision of **Prof. A.P. Mishra**. It is beyond any doubt that the cause of all geo-space activity is due to the entry of solar wind material and energy into the earth magnetosphere. There is however, regulating factors that only gradually come to be considered by the scientific community. We refer to the terrestrial factor. In this research work, we have used the data of various satellites and magnetometers situated at different latitude on the earth surface. Coronal mass ejections (CMEs) have been identified as a prime causal link between solar activity and large, non – recurrent geomagnetic storms. Ejected solar material is propelled out ward into interplanetary space, where it interacts with the back ground solar wind and distorts the IMF. This distortion, together with the internal magnetic structure of the CME itself, can produce large B_z deflections at earth, with the amplitudes depending on CMEs physical configuration, CME occurrence position, background SW structure, and position of the Earth. Magnetic cloud is a huge loop – like magnetic tube rejected from the sun and propagating in the interplanetary space. The magnetic field lines inside the tube are helically twisted and probably remain connected to the sun for a long time (days).

Articulate communicator, able to effectively interact with diverse populations of students at a variety of academic levels. Consistently maintain excellent relations with students, faculty, and administrators. Self-motivated with strong planning, organizational and leadership skills. My prior experience includes over teaching and working within the structures of a college and university. I bring an attention to students that goes beyond the classroom as. I also have good communication skills and can help to advise or clarify issues for those students who need some extra instruction. Teaching is only one part of the position and I am fully aware of this fact.

Educational Qualification:

S.No.	Name of Exam	Subject Group	Name of Board /University	Year of Passing
1	10th	Hindi, English, Math, Science, Social Science, Bio	UP Board Allahabad	1998
2	12th	Hindi, English, Math, Physics, Chemistry	UP Board Allahabad	2000
3	B.Sc.	Physics, Math	CSJM University Kanpur UP	2003
4	M.Sc.	Physics	APS University Rewa MP	2005
5	Ph.D.	Space Physics	APS University Rewa MP	2011
6	B.Ed.	Science	APS University Rewa MP	2016

Title of the Thesis: To Study The Solar Influence On Interplanetary Medium and Geomagnetic Field.

Teaching Experience 8 years

S.No.	Employer	Position	Nature of Duties	From	To
1	MITS Bhopal M.P.	Assistant Prof.	Teaching	6 Sept. 2010	8 Oct. 2014
2	D.B.P.G. College Bachharawn Raebareli U.P.	Assistant Prof.	Teaching	10 Jan. 2015	10 Jan. 2016
3	K.N.I.T. Sultanpur U.P.	Guest Faculty	Teaching	11 Jan. 2016	24 May 2018
4	D.S.M.N.R.U Lucknow	Guest Faculty	Teaching	28 Aug. 2018	31 May 2019
5	Career Convent Girls P.G. College Lucknow.	Assistant Prof.	Teaching	1 Sept. 2021	Till Now

Achievement

International Publication of Book: April 22, 2012 | ISBN-10: 3846514500 | ISBN-13: 978-3846514504, Publisher: LAP LAMBERT Academic Publishing Germany.

Paper presented in Seminars (Poster/Oral)

1. B.N. Mishra, **Kalpana Singh**, V. K. Mishra & A.P. Mishra, Piculiar Behaviour of Solar Cycle – 23 in relation with Forbush decreases and Geomagnetic storms. *Paper presented at National Seminar on Interplanetary Disturbances & Earth Environment held at Shahdol during January 28-29, 2009.*
2. **Kalpana Singh**, Meera Gupta & A. P. Mishra, Geomagnetic Quiet and Disturbed Days Associated with Different Solar and Interplanetary Conditions. *Paper presented at National Seminar on “Effect of Space Weather on Human Environment and Technological Systems” held at Durg(C.G.) during 15-16 February 2010.*
3. A.P. Mishra, Sham Singh & **Kalpana Singh**, Geomagnetic Quiet and Disturbed Days Associated with Different Solar and Interplanetary Conditions. *Paper presented at National Seminar on “Effect of Space Weather on Human Environment and Technological Systems” held at Durg(C.G.) during 15-16 February 2010.*

Paper presented in symposiums (Poster/Oral)/ National/ International Conference.

1. **Kalpana Singh**, R. Tripathi & A.P. Mishra, Radio burst observations in relation to coronal mass ejections. Paper Presented at XV National Space Science Symposium (NSSS- 2008), held at Ooty, during February 26-29, 2008.
2. **Kalpana Singh**, Roopali Tripathi & A. P. Mishra, Solar and interplanetary disturbances responsible for geomagnetic storms. Paper presented at 23rd National symposium on Plasma Science & Technology (Plasma – 2008) held at BARC, Mumbai, December 10 –13, 2008.
3. **Kalpana Singh** and A.P. Mishra, X–M Class Flare and Associated Radio Burst Observation during Solar Cycle 20–24. Paper presented at 24th National Symposium on Plasma Science and Technology held at NIT Hamirpur (H.P.) during 8–11 December, 2009.
4. **Kalpana Singh**, Sham Singh, Meera Gupta and A.P. Mishra, Heliospheric Processes and their Interplanetary Consequences. Paper presented at 24th National Symposium on Plasma Science and Technology held at Hamirpur (H.P.) during 8 –11 December, 2009.
5. Meera Gupta, V.K. Mishra, **Kalpana Singh** and A. P. Mishra, Correlative Study of Cosmic Ray Intensity and the Tilt angle of Heliospheric Current Sheet. Paper presented at 24th National Symposium on Plasma Science and Technology held at Hamirpur (H.P.) during 8 – 11 December, 2009.
6. **Kalpana Singh**, Sham Singh, Meeragupta and A.p. Mishra, Geomagnetic storms and their association with solar and interplanetary processes. Paper presented at 25th National Symposium on Plasma Science And Technology held at IASST, Guwahati Dec. 8-11, 2010.

7. Sham Singh, DivyaShrivastav, Kalpana Singh and A.P. Mishra, Comparative study of solar cycle 22 to 24 in relation to solar output variability. Paper presented at 26th National Symposium on plasma Science And Technology held at BIT Mesra, Patna December 20-23, 2011.
8. **Kalpana Singh**, Sham Singh, A.C. Pandey and A.P. Mishra, Solar Output Variability Observed during Sunspot Cycle 24. Paper presented at International Conference on Innovations and Developments in Mechanical Engineering (IDME' 17) held at KNIT Sultanpur U.P. India, 24-25 march 2017.
9. **Kalpana Singh**, Sham Singh and A.P. Mishra, Geomagnetic Storms Observed during Solar Cycle 24. . Paper presented at International Conference on Innovative Entrepreneurship and Startup, KNIT Sultanpur U.P. India, 3-4 march 2017.
10. **Kalpana Singh** & A.P. Mishra Peculiar Behaviour of solar cycle 24. Paper presented at International Conference on Space and Plasma Science (ICSPS -2015), held at Deptt. Of Physics Gov. Vivekanand P.G.College, Maihar, Satna M.P. India, 22-24 sept. 2015.
11. **Kalpana Singh** & A.P. Mishra X–M Class Flare and Associated Radio Burst Observation.at 17th National Space Science Symposium held at Sri Venkateswara University, Tirupati14-17 feb. 2012.

Paper Published In National / International conferences

1. **Kalpana Singh** & A.P. Mishra,X and M - class flares associated with Solar Radio Bursts Observation.Paper published at 32ndInternational Cosmic Ray Conference, Beijing, 1050, SH1.4, during 11 - 18 Aug, 2011. Pp125-131. DOI:10.7529/ICRC2011/V10/1050
2. **Kalpana Singh**, RoopaliTripathi& A.P. Mishra, Solar and interplanetary disturbances responsible for geomagnetic storms. Journal of Physics Conference Series (2010) 208, 012068. doi:10.1088/1742-6596/208/1/012068
3. **Kalpana Singh**, Sham Singh, A.C. Pandey and A.P. Mishra, Solar Output Variability Observed during Sunspot Cycle 24. Paper published at International Conference on Innovations and Developments in Mechanical Engineering (IDME' 17) KNIT Sultanpur U.P. India ISBN: 978-93-86256-61-4.pp139-142
4. **Kalpana Singh**, Sham Singh and A.P. Mishra, Geomagnetic Storms Observed during Solar Cycle 24. .Paper published at International Conference on Innovative Entrepreneurship and Startup, KNIT Sultanpur U.P. India, ISBN: 978-93-86256-55-3.pp 174-177.

Paper Published in International and National Journal

1. Sham singh, Anurag Pandey, **Kalpana Singh** & A.P.Mishra, Characteristic features of Geomagnetic storms observed during maxima of Solar cycle 24.(Article Id:27702290) ISSN :2051-6851,vol.26. International journal of Physics and Astronomy,pp 1103-1110.
2. Omkar Prasad Tripathi, P.L. Verma and **Kalpana Singh**, Geomagnetic Field Disturbances with CME and average IMF during solar cycle 23.AARJMD volume I Issue 16 december 2013 ISSN: 2319-2801.pp 204 – 210

3. Sham Singh, A.C. Pandey, **Kalpna Singh** & A.P.Mishra Effect of geomagnetic storms and their association with solar wind velocity and IMF during solar cycle 23 and 24. International Journal of Pure and Applied Physics. ISSN0973-1776 vol.13 Number 1(2017),pp.35-43.
4. Sham Singh, **Kalpna Singh**, Ajay Vasishth, A. C. Panday, Shabir Ahmad Shabir & A. P. Mishra, 2017, Effect of Geomagnetic Storms and Their Association with Solar Wind Velocity during 1996-2016. IJSRSET Vol.3, pp 456-460.
5. **Kalpna singh**, Sham Singh, Anoop Kuamr Singh & A. P. Mishra, "Study of Geomagnetic Storms During Maxima of Solar Cycle 24". International Journal of Engineering Research & Technology (IJERT)ISSN: 2278-0181, Vol. 8 Issue 11, November-2019, pp397-401
6. **Kalpna singh**, Sham Singh, Anoop Kuamr Singh & A. P. Mishra, "Effect of Solar Variation on Global climate change.". International Journal of Engineering Research & Technology (IJERT)ISSN: 2278-0181, Vol. 8 Issue 11, November-2019.

Paper Presented in Science Congress

Kalpna Singh, R. Tripathi & A. P. Mishra, Geomagnetic Storms associated with X – rays Flares and Radio Bursts. Paper presented at 96th Indian Science Congress held at NEHU Shillong, Meghalaya during January 3- 7, 2009.

Book Publication:

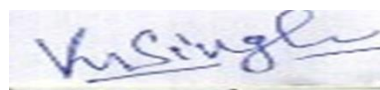
Hand Book of Sun and Associated Phenomena. LAP LAMBERT Academic

Publishing Germany, Author: **Kalpna Singh**, Publication Date: April 22, 2012 | ISBN-10: 3846514500 | ISBN-13: 978-3846514504

Subject e- Content

S.No.	Topic	Level	e content link
1.	Introduction of Optics	U.G.	https://youtu.be/LOdL_ZFLnvQ
2.	Introduction of Dispersion and Total Internal Reflection	U.G.	https://youtu.be/fTbmNdUXfrM
3.	Compton Effect	U.G.	https://youtu.be/8DoZvYdrv3U
4.	Quantum Physics		https://youtu.be/6cry5ZIELgw

5.	Holography	U.G.	https://drive.google.com/file/d/1iDGIV1sxJcCkj63P2HeQE-XV0cuPKwPc/view?usp=sharing
6.	Solar Parameter and related Events	Research (Related to Space Physics)	https://drive.google.com/file/d/1HbgxlVRP6x1MLsrPq359JhMi9kwGBBA7/view?usp=sharing
7.	Geomagnetic Storms observed during solar cycle 24	Research (Related to space Physics)	https://drive.google.com/file/d/1qti8bWVWgGkJb-x7oG9rvceSreg9LJ8C/view?usp=sharing
8.	Basic Introduction of Quantum Physics and Heisenberg's Uncertainty Principle	U.G.	https://drive.google.com/file/d/1AQEputlwz3wkr-XCzF8jIEDPBSQM1R2F/view?usp=sharing



Candidate signature

Date:

Place: Lucknow