

BIO – DATA OF DR. K.N.PATHAK



1. Name: PATHAK KAMLESH NIKULKUMAR
2. Date and Place of Birth: 27.09.1969, RAJKOT
3. Present Designation: Associate Professor of Physics in Dept. of Applied Physics, S.V. National Institute of Technology, Surat – 395 007.
4. Present Basic Pay: Rs. 52,420/-
5. Current fields of interest: Space Physics, Science of the Upper Atmosphere mainly the Ionosphere, and its impact on satellite communications, GPS based TEC measurements and detection of Seismo Ionospheric effects
6. Educational Qualifications: B.Sc. (Physics) I st class (1988) Saurashtra University
M.Sc. (Physics / Electronics) I st class (1990) Saurashtra University
Ph.D. (Ionospheric Physics), 1995, Saurashtra University
7. Experience : **Teaching 16 years (Since July, 1997)**
Research 18 years and continue (1991 to 2013 excluding 1992-1995 utilized for Ph.D.)
Executive/ Preventive: 5 years 3 months (From:1992 to 1997)
Total:
Teaching : 1 yrs 7 months at SCET, Surat as Lect.
7 yrs 8 months at SVNIT, Surat as Lect.
7 yrs 2 months at SVNIT, Surat as Asst/Asso. Prof. (Direct Recruitment)
Total : 16 yrs 05 months
8. Research Project Completed: 1. All India Coordinated Program on Ionospheric and Thermospheric Studies (AICPITS) sponsored by Deptt.of Science and Technology, Govt.of India.
Technical Quality Improvement Programme (TEQIP)

9. Ongoing Research Projects : 1. DST Sponsored Research Project entitled "A study of change in atmospheric refractivity prior to earthquake/s"
(Amount Rs. 15 lacs)
10. Membership of Societies: Life Member of the Indian Society for Technical Education. (LM 29656)
11. Industry Consultation and Testing: Consultation and testing services were offered for
(1) Determining Thermal conductivity of concrete building blocks for thermal insulation.
(2) Conductivity of polymers.
(3) Pole Strengths of various types of permanent Magnets used in the industry.
(4) Calibration of digitized thermometer.
12. Continuing Educational Services: - Participated Actively in Summer/ Winter school Programmes : List attached
- Actively engaged in the course setting, teaching and evaluation exercise in the degree level courses offered to the employees of Reliance Industries Ltd., Surat
- Presently active in formalizing the complete structure for five years Integrated M Sc programmes including the curricula formation, lab setups, infrastructural aspects etc.
13. Conferences/ Seminars/ Workshops/ Symposia attended/organized : List attached
13. Research Publications : List attached
14. Special Achievement: Awarded Second Prize for active Participation in the First coordinated data analysis workshop at Shivji University, Kolhapur, 1991.

ADMINISTRATIVE RESPONSIBILITIES:

- (1) Past Member Literary and Debating Committee
- (2) Past Member Time Table Committee
- (3) Past Member Institute Library Committee
- (4) Past member Admission Committee, 1999, 2000,2001
- (5) Past Member of Finance and Social Welfare Committee
- (6) Jury member in Debating Competition
- (7) Jury of Student's Technical symposium MIND BAND
- (8) Member, Dept. TEQIP Purchase committee
- (9) Past Member Secretary Dept. Board Of U.G. Studies
- (10) Member B P G S & R of the Institute
- (11) Member Inst. Stock Verification Committee
- (12) Member Inst. Committee for Accreditation
- (13) Member Dept. Quality Assurance Comm.
- (14) Member Dept. Research Progress Committee
- (15) Chairman RPC, for one Research Student of Mech. Engg.
- (16) Co-chairman, Admission Committee for B.Tech. for the year 2007-08 and 2008-09
- (17) Member Institute committee for writing off of the Obsolete items
- (18) Member, Senate, SVNIT, Surat
- (19) Member, BUGS, SVNIT, Surat
- (20) Incharge Physics Section, ASH Dept. (2005-2009)
- (21) Head, Department of Applied Physics (2009-2013) (Two successive full terms)
- (22) Chairman, Dept. Acad. Adv. Comm. (2009-2013)
- (23) Member, Insti. Acad. Adv. Comm. (2009-2013)

List of Summer/Winter Schools/SDP/Conferences organized:

1. All India Council for Technical Education Sponsored Staff Development Program entitled “Recent Scientific and Technological Advances in Physical Science” October, 05 - 09, 2009, at SVNIT, Surat.
2. All India Council for Technical Education Sponsored Staff Development Program entitled “Recent Scientific and Technological Advances in Physical Science” October, 05 - 09, 2009, at SVNIT, Surat.
3. All India Council for Technical Education Sponsored Staff Development Program entitled “Recent Scientific and Technological Advances in Physical Science” October, 05 - 09, 2009, at SVNIT, Surat.
4. All India Council for Technical Education Sponsored Staff Development Program entitled “Recent Scientific and Technological Advances in Physical Science” October, 05 - 09, 2009, at SVNIT, Surat.
5. All India Council for Technical Education Sponsored Staff Development Program entitled “Recent Scientific and Technological Advances in Physical Science” October, 05 - 09, 2009, at SVNIT, Surat.
6. All India Council for Technical Education Sponsored Staff Development Program entitled “Recent Scientific and Technological Advances in Physical Science” October, 05 - 09, 2009, at SVNIT, Surat.
7. First Two Days Einstein Lecture Series
8. CONIAPS XIV
- 9.
10. Attended AICTE sponsored SDP on ‘Nanotechnology and Applications’, July, 13-17, 2009.
11. Attended AICTE sponsored SDP on ‘Recent Developments and future trends of Nanotechnology in modern science’, Dec, 21-25, 2009.

List of Conferences, Seminars, Symposia, Workshops attended

1. PLASMA – 98, XIII National Symposium on Plasma Science and Technology, Oct.27 – 30, 1998, held at Department of Physics, Saurashtra University, Rajkot.
2. First Beacon Satellite Scintillation Network Data Analysis Workshop of All India Coordinated Program on Ionospheric and Thermospheric Studies (AICPITS) of Science and Engineering

Research Council (SERC), Department of Science and Technology, Govt. Of India, organized at Shivaji University, Kolhapur during 3 rd June to 8 th June, 1991.

3. Third Beacon Satellite Scintillation Network Data Analysis Workshop of All India Coordinated Program on Ionospheric and Thermospheric Studies (AICPITS) of Science and Engineering Research Council (SERC), Department of Science and Technology, Govt. Of India, held at Saurashtra University, Rajkot in 1993.
4. Workshop on Popularization of Astronomy, 1990, Ahmedabad.
5. Inter University Center of Astronomy and Astrophysics (IUCAA) sponsored workshop “ Experimental Techniques in Space Science and Astronomy ”, 24 th Feb. to 28 th Feb.1992, Dept. Of Physics and Space sciences, Gujarat University, Ahmedabad.
6. VIII Gujarat Science Congress, 16-17 Jan., 1993 at Saurashtra University, Rajkot.
7. Second All India Amateur Astronomers’ Meet, 4 th and 5 th Jan. 1992, held at Sevagram, Wardha, India.
8. Exhibition on Astronomy, 24 th and 25 th March 1991 organized by Amateur Astronomers’ Association, Rajkot at Bhavnagar University.
9. National Seminar on Partial Differential Equations and Scientific Computing, Jan. 23 – 25, 2006, Dept. of Maths, VN SGU, Surat.
10. One Day Workshop on “Relevance of Ph. D. in Technical Education” , Mech. Engg. Dept., SVNIT, Surat.
11. Three Day Workshop on “Some Aspects of Electron Microscopy” March 2006, Mech. Engg. Dept., SVNIT, Surat
12. Two Day TEQIP Workshop on Financial Management, March 2006, SVNIT, Surat.
13. 2nd UN/ NASA workshop on International Heliophysical Year and Basic Space Sciences, November, 2006, Bangalore, India
14. 16th National Space Science Symposium, Saurashtra University, Rajkot, February, 2010.
15. COSPAR’10, 38th COSPAR Scientific Assembly, 2010, Bremen, Germany, 18th – 25th , July 2010.
16. ICTP-BC workshop on GNSS applications to Developing countries, ICTP, Italy from 11.04.2012 to 27.04.2012
17. 2013 Beacon Satellite Symposium at University of Bath, UK from 8th July, 2013 to 12th July, 2013.
18. 1st COSPAR Symposium at Bangkok, Thailand from 10.11.2013 to 15.11.2013

List of Publications:

(A) Papers published in Journals (prior to 2006)					
Sr.No.	PAPER	Journal	Volume, PP	Year	Impact Factor
1.	Co-ordinated multi station VHF scintillation observations in India during March-April 1991. H.Chandra, K.N.Pathak , et al	Indian J.Radio Space Phys. (NISCAIR)	22, 69	1993	0.235
2.	Characteristics of VHF scintillations in the equatorial anomaly crest region in India. K.N.Pathak , R.D.Jivarajani, H.P.Joshi, and K.N.Iyer http://link.springer.com/article/10.1007%2Fs00585-995-0730-7	Ann. Geophys.	13, 730-739	1995	1.518
3.	Studies of Ionospheric scintillation near the equatorial anomaly in India using digital database. K.N.Pathak , R.D.Jivarajani, B.Mathew, H.P.Joshi, and K.N.Iyer	Indian J.Radio Space Phys. (NISCAIR)	24, 138	1995	0.235
4.	Characteristics of VHF scintillations in the equatorial anomaly crest region in India and their comparison with model. K.N.Iyer, K.N.Pathak , H.P.Joshi and R.D.Jivarajani http://dx.doi.org/10.1016/0273-1177(95)00909-4	Adv.Space Research (COSPAR-Elsevier)	18, 107	1996	1.183
5.	Effect of Ionospheric Plasma irregularities on communication parameters. M.N.Jivani, K.N.Pathak , , H.P.Joshi, Boby Mathew and K.N.Iyer	IETE Technical Review,	17, No.1,2, 43	2000	----
6.	Co-ordinated observations of VHF scintillations in India during February-March 1993. Sushil Kumar.. Pathak K. N. et al	Indian Journal of Radio & Space Physics (NISCAIR)	29, 22	2000	0.235

(B) Papers published during the Review Period after (2006)

Sr. No.	PAPER	Journal	Volume, PP	Year	Impact Factor
1.	Some features of Plasma bubble induced scintillations during the AICPITS campaigns of 1991. P N Vijaykumar, K N Pathak , et al http://nopr.niscair.res.in/handle/123456789/2833	Indian Journal of Radio & Space Physics (NISCAIR)	36, 91-102	2007	0.235
2.	Application of remote sensing in seismology with the help of GPS based ionospheric TEC variation prior to two earthquakes observed in India. Karia, S.P., Pathak, K.N.	Advances in Computational Research, ISSN: 0975-3273,	Volume 2, Issue 1, pp-30-34	2010	----
3.	Refractive index of drifting ionized plasma with variation in electron collision frequency in the Earth's upper atmosphere. Karia, S.P., Pathak, K.N. doi: 10.1109/ICINFOS.2010.5578735 ,	IEEE Xplore ISBN:978-1-4244-6653-5		2010	----
4.	Ionospheric precursors of Earthquake in India during April-09. Karia, S.P., Pathak, K.N. ftp://ftp.estec.esa.int	Proceedings of Galileo Programme (WPP 302)		2010	----
5.	Change in refractivity of the atmosphere and large variation in TEC associated with some earthquakes, observed from GPS receiver. Karia, S.P., Pathak, K.N. http://dx.doi.org/10.1016/j.asr.2010.09.019	Adv. Space Res. (COSPAR-Elsevier)	47, 5, 867-876	2011	1.183
6.	GPS based TEC measurements for a period August 2008-December 2009 near the northern crest of Indian Equatorial Ionospheric Anomaly region. Karia, S.P., Pathak, K.N. doi: 10.1007/s12040-011-0114-1	J. Earth Syst. Sci. (Springer)	120, 5, 851-858.	2011	0.695
7.	Analysis of GPS-based TEC and electron density by the DEMETER satellite before the Sumatra earthquake on 30 September 2009 Karia, S.P., Pathak, K.N. , Sarkar, S. http://dx.doi.org/10.1080/01431161.2012.657375 .	Int. Jou. Of Remote Sensing (Taylor & Francis)	33, 16, 5119-5134	2012	1.138
8.	Study of GPS based ionospheric scintillation during low solar activity period (2009-2010) at an Indian low latitude station-Surat H. J. Tanna, S. P. Karia and K. N. Pathak	Asian Journal of Physics	Accepted	2012	
9.	Analysis of space and ground based parameters prior to an earthquake on 12 December 2009 Sheetal Karia, Kamlesh Pathak , et al. http://dx.doi.org/10.1080/01431161.2013.827341	Int. Jou. Of Remote Sensing (Taylor & Francis)	34, 21, 7779-7795	2013	1.138
10.	A study of L band scintillations during the initial phase of rising solar activity at an Indian low latitude station H.J. Tanna, S. P. Karia & K. N. Pathak http://dx.doi.org/10.1016/j.asr.2013.03.022	Adv. Space Res. (COSPAR-Elsevier)	52, 412-421	2013	1.183
11.	Multifractality due to long-range correlation in the L-band ionospheric scintillation S4 index time series H.J.Tanna & K.N.Pathak DOI 10.1007/s10509-013-1742-5	Astrophysics and Space Science (Springer)	350, 47-56	2014	2.064
12.	Longitude dependent response of the GPS derived ionospheric ROTI to geomagnetic storms H.J.Tanna & K.N.Pathak DOI 10.1007/s10509-014-1938-3	Astrophysics and Space Science (Springer)	352, 2, 373-384	2014	2.064
13.	Modification in Atmospheric Refractivity and GPS Based TEC as Earthquake Precursors Sheetal P. Karia*, Kamlesh N. Pathak, Kunvar S. Yadav, Nikita P. Chaudhary, Nilesh C. Patel. Ranjan Jana http://dx.doi.org/10.4236/pos.2014.52006	Positioning http://www.scirp.org/journal/pos	5, 46-52	2014	

(C) Papers in Procce./Conf. before (2006)

1.	Power spectral studies of Ionospheric Scintillations near the crest of the equatorial anomaly in India. K.N.Pathak , B.Mathew, R.Pandey, and K.N.Iyer Proc. Of International Beacon Satellite Symposium, MIT, Boston, USA, 1992.
2.	Effect of Geomagnetic storm on Ionospheric scintillations at low latitudes. K.N.Pathak , B.M.Pathan, K.N.Iyer, D.R.K.Rao, and R.G.Rastogi Proc. Of International Beacon Satellite Symposium, MIT, Boston, USA, 1992
3.	E-W and N-S movement of irregularities derived from multi station scintillation observations. K.N.Iyer and K.N.Pathak Third co-ordinated data analysis workshop, 1993
4.	Co-ordinated multi station VHF scintillation observations in India during Sept. – Oct. 1991 under AICPITS project. P.N.Vijaykumar, K.N.Pathak , et al National Space Science Symposium, Trivandrum, 1994.
5.	Simultaneous observations at VHF radio wave scintillations in India during Feb.- March 1993. Sushilkumar, K.N.Pathak , et al National Space Science Symposium, Trivandrum, 1994.
6.	Study of Ionospheric Plasma Irregularities using Scintillation technique. M.N.Jivani, K.N.Pathak , Boby Mathew, H.P.Joshi, and K.N.Iyer XIII National Symposium on Plasma Science and Technology, Oct. 27 – 30, 1998, Deptt.of Physics, Saurashtra University, Rajkot.
7.	Solar Radiation and its interaction with the Earth's upper atmosphere. K.N.Pathak Proc.of AICTE/ISTE Workshop on “Advances in Solar Energy Technology”, S.V.R.C.E.T., Surat, July 3-14, 2000.
8.	Curricular Repositories: Knowledge Management in Education. H. P. Bulsara, K. N. Pathak , and Hitesh Sharma Proc. International Conf. on Resource Utilization and Intelligent Systems, Kongu Engg. College, Jan. 4 – 6, 2006..
9.	Generalization of the Instability Phenomena in Fluid Flow Through Porous media with Mean Capillary Pressure by using Special Functions. A.K. Shukla, K. N. Pathak , J. C. Prajapati Proc. Of National Seminar on Partial Differential Equations and Scientific Computing, Dept of Mathematics, V N South Gujarat University, Surat, Jan. 23 – 25, 2006.

(D) Papers in Proceedings/ Conferences after (2006)

1.	Initial Results of Ionospheric Parameters at Surat (21.16 N, 72.78 E) using GPS Satellite Signals. K.N. Pathak Presented at 2 nd UN/NASA Workshop on International Heliophysical Year and Basic Space Science, Indian Institute of Astrophysics, Bangalore, Nov-Dec, 2006.
2.	GPS Based TEC measurements for (Jul08-Sep08) Sheetal Karia, and K. N. Pathak XII th GSC on 16 th of February, 2009 at VNSGU, Surat, India
3.	Refractive index of drifting ionized plasma. Sheetal Karia, and K. N. Pathak XII th GSC on 16 th of February, 2009 at VNSGU, Surat, India
4.	Ionospheric precursors of Earthquake in India during April-09 Karia, S.P., and Pathak, K.N. , 2 nd International Colloquium - Scientific and Fundamental Aspects of the Galileo Programme, held from 14-16 October, 2009, at the University of Padova, Padua, Italy.
5.	Refractive index of drifting ionized plasma with variation in electron collision frequency in the Earth's upper atmosphere. Karia, S.P., and Pathak, K.N. , 16 th National Space Science Symposium-2010 February 24-27,2010,Rajkot, India
6.	Vertical Total Electron Content variations during total Solar eclipse of 22 July 2009. Karia, S.P., and Pathak, K.N. 16 th National Space Science Symposium-2010 February 24-27,2010, Rajkot, India
7.	Anomalous variation in GPS based TEC measurements prior to the 30 September 2009 Sumatra Earthquake. Karia, S.P.,and Pathak, K.N. 38 th COSPAR Scientific Assembly-2010 ,18 - 25 July 2010, Bremen, Germany
8.	Refractive index of drifting ionized plasma with variation in electron collision frequency in the upper atmosphere. Karia, S.P.,and Pathak, K.N. 5th International Conference on Industrial and Information Systems(ICIS-2010) 29th July – 1st August, 2010, NITK Mangalore, India.
9.	Karia, S.P.,and Pathak, K.N. International Workshop On Seismo-Electromagnetics and Atmospheric Science (IWSE AS-2010) 16-18 November, 2010, Agra, India.
10.	Day time and night time scintillations observed at Surat station H. J. Tanna, S. P. Karia and K. N. Pathak 14 th International Conference of International Academy of Physical Sciences, S V National Inst. Of Tech., Surat, India, Dec. 22 to Dec.24, 2011

11.	GPS based TEC measurement for period January 2010 – December 2010 near the equatorial anomaly region in India. K. S. Yadav, K. N. Pathak , and S. P. Karia 14 th International Conference of International Academy of Physical Sciences, S V National Inst. Of Tech., Surat, India, Dec. 22 to Dec.24, 2011
12.	Characteristics of GPS based ionospheric scintillation observed during low to moderate solar activity for the period 2009 to 2011 at low latitude station-Surat H. J. Tanna, K. N. Pathak and S. P. Karia 39 th COSPAR Scientific Assembly-2012 ,14 - 22 July 2012, Mysore, India.
13.	Anomalous variation in GPS based TEC measured from two IGS stations in Japan prior to Tohoku earthquake in March, 2011. K. S. Yadav, K. N. Pathak , and S. P. Karia 39 th COSPAR Scientific Assembly-2012 ,14 - 22 July 2012, Mysore, India.
14.	Seasonal variation study of GPS based TEC at equatorial anomaly region in India for a period of January 2010-December 2010. K. S. Yadav, S. P. Karia and K. N. Pathak Research Scholar Day, 16 th Dec-17 th Dec, 2011, Indian Inst. Of Space Tech, Thiruvananthapuram.
15.	Anomalous variation in the GPS based TEC and Multi sensor data study of the Tohoku earthquake on 11 March, 2011. K. S. Yadav, S. P. Karia and K. N. Pathak The National conference on Natural Hazards and Mitigation, 4-5, December, 2012, Eshan Engineering College, Mathura, India.
16.	Ionospheric TEC variation prior to Japan earthquake in 2011 and Multi sensor data study associated with some earthquakes in 2012. K. S. yadav, S. P. Karia and K. N. Pathak International Symposium on Advances in Earthquake science, 1-2, Feb, 2013, Institute of Seismic Research, Gandhinagar, India.
17.	STUDIES ON IONOSPHERIC SCINTILLATION USING S4 INDEX AND ROTI AT SURAT STATION, INDIA DURING THE YEAR 2009 TO 2012 Hemali. J. Tanna, Sheetal P. Karia And Kamlesh N. Pathak The International Beacon Satellite Symposium, 2013, Univ. of Bath, UK, 8 th July, 2013 to 12 th July, 2013
18.	GPS derived ionospheric scintillation response to the geomagnetic storms at low latitude stations Hemali. J. Tanna, Sheetal P. Karia and Kamlesh N. Pathak The International Beacon Satellite Symposium, 2013, Univ. of Bath, UK, 8 th July, 2013 to 12 th July, 2013
19.	Comparison of GPS based TEC measurements with the IRI-2007 Models for the period of low to high solar activity (2009-2012) at Surat located in the northern crest of equatorial anomaly in Indian region. Sheetal P. Karia, K. N. Pathak & Others 1 st COSPAR Symposium, Bangkok, Thailand, 11-15 November 2013
20.	Modification in refractivity and GPS based TEC prior to Iran-Pakistan Border earthquake (M=7.8) in April 2013. Kunvar Yadav, Sheetal Karia , K. N. Pathak & others 1 st COSPAR Symposium, Bangkok, Thailand, 11-15 November 2013

21.	Anomalous variation in GPS based TEC and prior to the 6 earthquake in 2009 and 2010. Kunvar Yadav, Sheetal Karia & K. N. Pathak 1 st COSPAR Symposium, Bangkok, Thailand, 11-15 November 2013
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(*) Paper Reviewer in International and National Journals / Conferences/ Seminars.

- Reviewer To the Journal of Low Temperature Physics (int. journal)
- Reviewer : IEEE Transactions of Geo Sciences and Remote Sensing
- Reviewer : Indian Journal of Radio and Space Physics, NISCAIR publication