

CURRICULUM VITAE

SANTANU BANERJEE

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➤ **ACADEMIC QUALIFICATIONS**

- ❑ Pursuing doctoral research (PhD) at Kyushu University, Japan from Oct 2010 to Sep 2013
- ❑ Successfully completed Technical Training Program* scheduled from September 02, 2002 to August 31, 2003 at the Institute for Plasma Research, Bhat, Gandhinagar 383 428, Gujarat, INDIA
- ❑ **M.Sc. Physics** from Rani Durgavati Vishwa Vidyalaya, Jabalpur, (MP) 78.83% [Topper – University Teaching Dept.] – October 2000
 - *Specializations offered:* 1. Communication Electronics.
2. Digital Electronics & Microprocessors.
- ❑ **B.Sc. Physics (Hons.)** from Durgapur Government College, Durgapur, University of Burdwan, (WB) 58% – August 1998
- ❑ **Higher Secondary** from A-Zone Boys' Multipurpose School, Durgapur, (WB) 69.4% – July 1995.

➤ **PRESENT POSITION**

Working as Scientist – SD in the Spectroscopy Group, Institute for Plasma Research, Bhat, Gandhinagar 383 428, Gujarat, INDIA, from September 01, 2008 till date (earlier worked as Scientist – SC since Sept. 01, 2003).

➤ **AWARDS AND ACHIEVEMENTS**

- ❑ National Eligibility Test (JRF-NET)[#] qualified in CSIR category, 2001
- ❑ Graduate Aptitude Test in Engineering (GATE) 2002 qualified
- ❑ Awarded with National Scholarship in the Madhyamik (Secondary) Examination
- ❑ Awarded with Govt. of India Fellowship for Research & Development in Forensic Physics

➤ **CAREER OBJECTIVE**

To contribute in the experimental R & D activities related to turbulence and transport in plasma physics. My areas of interest are Plasma Imaging, Plasma Spectroscopy, Studies of Plasma Turbulence and Fluctuations, Impurities production and transport in Tokamak plasmas.

* Course work on Plasma Physics, Electronics, Electrical, RF and Microwave, Computer Languages, Magnet and Vacuum Technology, Cryogenic Engineering.

A certain number of Junior Research Fellows (JRF) are awarded fellowships each year by Council of Scientific and Industrial Research (CSIR) to those holding M.Sc. or equivalent degree, after qualifying the National Eligibility Test (NET) jointly conducted by CSIR and University Grants Commission (UGC) for pursuing research under expert guidance.

➤ TECHNICAL EXPERTISE

- **Equipments:** Have experience in handling following equipments:
 - **Spectrometers:** Visible, Multi-track visible, VUV, Normal and Grazing Incidence
 - **Detectors:** Photo multiplier tube, CCD, High frame rate CMOS and ICCD cameras
 - **Optics:** Interference filters, Optical fiber, Imaging fiber bundles, Lens, Mirrors, Beam splitter, etc.
 - **Vacuum systems:** Turbo molecular pump, Diffusion pump and different types of gauges
 - **Electronics:** Pre-amplifier, Amplifier, Control circuit in electro-magnetic environments
 - **Data Acquisition and Processing Instruments:** Remote operation of data acquisition systems, automation of spectroscopic systems involving both hardware and software
 - **Computers:** Sun workstation, Windows Vista/7 and LINUX based Personal Computer

- **Computational skills**
 - Programming languages handled are FORTRAN, C, MATLAB – used for preparing codes for data analysis and control of equipments
 - Data acquisition software viz. Andor, Winspec used extensively for spectroscopic systems
 - Familiar with ADAS database and STRAHL impurity transport code

➤ RESEARCH EXPERIENCE

- **Major research activities**
 - Worked as a visiting scientist at the IEF-4, Forschungszentrum, Juelich, Germany on *Wall reflection modeling for charge exchange diagnostics for Textor and ITER* from Sep 22, 2008 to Dec 13, 2008.
 - Diffuse reflection model has been developed for the reflected continuum radiation from the vessel wall back into the charge exchange spectroscopic channels for tokamak plasma
 - Full Bidirectional Reflectance Distribution Function (BRDF) model has been developed for the reflected charge exchange signal from the vessel wall. Both the models has been scripted in MATLAB to estimate reflection contribution in the recorded signals
 - Study of molecular spectra and its application in the edge region of tokamak plasma to determine plasma temperature
 - Fundamental data for molecules viz. H₂, N₂ and OH are being analyzed and incorporated in a comprehensive code to generate synthetic spectra for comparing with experimental data. Plasma temperature of SST-1 glow discharge plasma and penning plasma has been estimated using synthetic spectra of OH. This is extended to study divertor and SOL plasma
 - Development of spectroscopy based diagnostics for ADITYA & SST-1 Tokamaks and experimental plasmas in general. This involves installation of CCD and CMOS based cameras for plasma imaging, wavelength and relative/absolute intensity calibration of spectrometers.
 - Study of impurities influx from various plasma facing components of ADITYA using a high resolution (1 m focal length) Multi-track Spectrometer (MTS)
 - Used MTS to utilize the passive light emission for identifying the location of emissions of hydrogen and impurities and inferring their temperatures and flow velocities
 - Ion Pfirsch–Schlüter flow has been observed in the edge region of ADITYA tokamak
 - Study of neutral particle penetration in tokamak edge plasma with DEGAS 2 neutral transport simulations and spectroscopic chord integrated (and then Abel-inverted) H_α measurements
 - Developed MATLAB based code (TITR code) for Tomographic reconstruction of emissivity profile on the poloidal cross-section of tokamak from tangential images
 - Initially, the code has been developed to infer the poloidal emissivity profile from tangentially acquired images on the tokamak plasma
 - A diffuse reflection model has been proposed to account for the reflected light from the tokamak vessel wall into the camera. This model has been incorporated in the code to give a fruitful reconstruction in presence of diffuse reflection
 - Often these reconstruction algorithms are highly susceptible to noise in the input brightness data. Detailed noise stabilization analysis has been done to optimize the detector resolution for handling noise as high as 20 % in the input brightness

- Analysis of VUV and Visible spectral lines from a Penning discharge using CR model - an attempt towards absolutely intensity calibration of VUV spectrometer
 - 10 HeI lines have been recorded in the visible region. n_e and T_e of the penning plasma is determined with these ten recorded intensities and the ' r ' coefficients available for each line (for a give n_e and T_e) from the CR model. For this now characterized plasma, a VUV synthetic spectrum is generated and compared with the simultaneously recorded VUV spectrum to obtain the calibration factor
- Statistical analysis of tokamak turbulence data from fast camera and Langmuir probes

➤ PERSONAL DETAILS

- Date of Birth : February 25, 1978
- Nationality : Indian
- Sex : Male

➤ REFERENCES FOR RECOMMENDATION

1. Dr. P. Vasu

Scientist –SF
& ITER-India Diagnostics Project Manager
Institute for Plasma Reaserch,
Bhat, Gandinagar, 382 428, INDIA
E-mail: vasu@ipr.res.in

2. Dr. Joydeep Ghosh

Fellow & Group Leader
Spectroscopy Group,
Institute for Plasma Reaserch,
Bhat, Gandinagar, 382 428, INDIA
E-mail: jghosh@ipr.res.in

➤ OTHER ACHIEVEMENTS

Reviewed articles for publication in reputed international journals like *Review of Scientific Instruments*

➤ REPORTS AND PUBLICATIONS

□ *Talks Delivered*

1. “Visible Imaging and Tomographic Reconstruction of Tangential Images of the Tokamak Plasma”, Invited talk at the 24th National Symposium on Plasma Sci. & Tech., Hamirpur, India, Dec 10, 2009
2. “Visible Imaging of the Tokamak Plasma”, Invited talk at the DST-SERC School on Plasma Diagnostics, Gandhinagar, India, July 20-31, 2009

□ *Peer Reviewed Journals*

1. **Santanu Banerjee**, H. Zushi, N. Nishino, Y. Nagashima, K. Hanada, M. Ishiguro, T. Ryoukai, S. Tashima, T. Inoue, K. Nakamura, H. Idei, M. Hasegawa, A. Fujisawa, and K. Matsuoka, “Fast visible imaging and edge turbulence analysis in QUEST”, Rev. Sci. Instum. 83, 10E524 (2012)
2. **Santanu Banerjee**, Hideki Zushi, Nobuhiro Nishino, Kazuaki Hanada, Sanjeev Kumar Sharma, Tsubasa Inoue, Haiqing Liu, Masaki Ishiguro, Tomofumi Ryoukai, Saya Tashima, Kazuo Nakamura, Hiroshi Idei, Makoto Hasegawa, Akihide Fujisawa and Keisuke Matsuoka, “Statistical analysis of the convective intermittent transport at the edge region of QUEST”, IEEJ Trans. Fund. Mater. 132(7), 545-554 (2012)
3. **Santanu Banerjee**, H. Zushi, N. Nishino, K. Hanada, H. Honma, H.Q. Liu, M. Ishiguro, T. Ryoukai, S. Tashima, K. Nakamura, H. Idei, M. Hasegawa, A. Fujisawa, and the QUEST group, “Statistical Interpretation of the Density Fluctuations from the High Speed Visible images of Edge Turbulence on QUEST”, IEEE Trans. Plasma Sci. 39 3006 (2011)
4. **Santanu Banerjee**, P. Vasu, Manfred von Hellermann and R. J. E. Jaspers, “Wall reflection modeling for CXRS measurements on Textor and ITER”, Plasma Phys. Control. Fusion 52 125006 (2010)

5. B. Paradkar, J. Ghosh, P. K. Chattopadhyay, R. L. Tanna, D. Raju, S. B. Bhatt, C. V. S. Rao, Sankar Joisa, **Santanu Banerjee**, R. Manchanda, Y. C. Saxena, and Aditya Team, “*Runaway-loss induced negative and positive loop voltage spikes in Aditya-Tokamak*”, Phys. Plasmas 17 092504 (2010)
6. R. Manchanda, J. Ghosh, P. K. Chattopadhyay, M. B. Chowdhuri, **Santanu Banerjee**, N. Ramasubramanian, Ketan. M. Patel, Vinay kumar, P. Vasu, R. L. Tanna, S. B. Bhatt, D. Raju, R. Jha, P. K. Atrey, S. Joisa, C. V. S. Rao, Y. C. Saxena and Aditya Team, “*Drift-Alfven waves induced optical emission fluctuations in Aditya Tokamak*”, Phys. Plasmas 17 072515 (2010)
7. **Santanu Banerjee**, J. Ghosh, R. Manchanda, R. Dey, N. Ramasubramanian, M.B. Chowdhuri, Ketan M. Patel, Vinay Kumar, P. Vasu, P.K. Chattopadhyay, P.K. Atrey and Aditya Team, “*Observations of H_α emission profiles in Aditya tokamak*”, J. Plasma Fusion Res. SERIES 9 29-32 (2010)
8. Ram Prakash, Jalaj Jain, Vinay Kumar, R Manchanda, Bishu Agarwal, M B Chowdhuri, **Santanu Banerjee** and P Vasu, “*Calibration of a VUV spectrograph by Collisional-Radiative modeling of a discharge plasma*”, J. Phys. B: At. Mol. Opt. Phys. 43 144012 (2010)
9. **Santanu Banerjee** and P. Vasu, “*Diffuse Reflection Model and Noise Stabilization for Tangential Image Tomographic Reconstruction (TITR) Code*”, Nucl. Fusion 49 075032 (2009)
10. **Santanu Banerjee**, Vinay Kumar, M. B. Chowdhuri, J. Ghosh, R. Manchanda, Ketan M. Patel and P. Vasu, “*Space- and time-resolved visible-emission spectroscopy of Aditya-Tokamak discharges using Multi-track Spectrometer*”, Meas. Sci. Technol. 19 045603 (2008)
11. **Santanu Banerjee**, A.K. Chattopadhyay and P. Vasu, “*Tomographic reconstruction of emissivity profile from tangentially viewed images using pixel method*”, Plasma Fusion Res. 2, S1120 (2007)

□ **International Conferences**

1. **Santanu Banerjee**, H. Zushi, N. Nishino, Y. Nagashima, K. Hanada, M. Ishiguro, T. Ryoukai, S. Tashima, T. Inoue, K. Nakamura, H. Idei, M. Hasegawa, A. Fujisawa, K. Matsuoka and the QUEST group, Variations in edge turbulence induced by poloidal magnetic field curvatures for 8.2 GHz slab plasma in QUEST, 19th Topical Conference High-Temperature Plasma Diagnostics, Monterey, CA, USA, May 6-10, 2012
2. **Santanu Banerjee**, H. Zushi^a, N. Nishino^b, K. Hanada^a, S.K. Sharma, T. Inoue, H. Honma, H.Q. Liu, M. Ishiguro, T. Ryoukai, S. Tashima, K. Nakamura^a, H. Idei^a, M. Hasegawa^a, A. Fujisawa^a and the QUEST group, “Statistical analysis of the convective intermittent transport at the edge region of QUEST” 16th International Workshop on Spherical Torus (ISTW2011); National Institute for Fusion Science, Japan, September 27 – 30, 2011
3. **Santanu Banerjee**, H. Zushi^a, N. Nishino^b, K. Hanada^a, H. Honma, H.Q. Liu, M. Ishiguro, T. Ryoukai, S. Tashima, K. Nakamura^a, H. Idei^a, M. Hasegawa^a, A. Fujisawa^a and the QUEST group, “Origin and evolution of coherent convective structures investigated using fast imaging in QUEST” 1st Asia Pacific Transport Working Group (APTWG) International Conference, National Institute for Fusion Science, Japan, June 14 - 17, 2011
4. **Santanu Banerjee**, J. Ghosh, R. Manchanda, R. Dey, N. Ramasubramanian, M.B. Chowdhuri, Ketan M. Patel, Vinay Kumar, P. Vasu, P. K. Chattopadhyay, P.K. Atrey and Aditya Team, “Observations of H_α emission profiles in Aditya tokamak”, 7th General Scientific Assembly of the Asia Plasma and Fusion Association (APFA2009), Aomori, Japan, October 27-30 2009
5. **Santanu Banerjee**, P. Vasu, Manfred von Hellermann, Roger Jaspers and Ephrem Delabie, “Effect of wall reflection on CXRS diagnostics in Textor and ITER”, Oral presentation at the workshop on Active Beam Spectroscopy for the control of fusion plasmas, Lorentz Center, Leiden, The Netherlands, 24-27 March, 2009
6. **Santanu Banerjee** and P. Vasu, “Modeling of Wall reflections in Optical Measurements in Tokamaks”, Oral presentation at the 15th Meeting of the ITPA Topical Group on Diagnostics, Gandhinagar, India, 17-20 November 2008
7. R. Manchanda, Joydeep Ghosh, M.B. Chowdhuri, **Santanu Banerjee**, Vinay kumar, P. Vasu, Ketan. M. Patel, D. Raju, R. Jha, , P.K. Atrey, C.V.S. Rao, P.K. Chattopadhyay, S. Joisa, S.B.

- Bhatt, N. Ramasubramanian, R.L. Tanna, Y.C. Saxena and Aditya Team, "Investigation of observed H_{α} intensity fluctuations in the edge region of Aditya Tokamak", 2nd ITER International Summer School, Kyushu University, Kasuga, Fukuoka, Japan, July 22-25, 2008
8. **Santanu Banerjee** and P. Vasu, "Wall reflection calculations for the Tangential Image Tomographic Reconstruction (TITR) Code", Oral presentation at the IAEA International Workshop on Challenges in Plasma Spectroscopy for Future Fusion Research Machines, Jaipur, India, 20 - 22 February 2008
 9. R. Dey, N. Ramasubramanian, R. Manchanda, **Santanu Banerjee**, J. Ghosh, P. Vasu, Vinay Kumar, and Aditya Team, "Impurity transport studies in ADITYA tokamak using spectroscopic data and STRAHL code", IAEA International Workshop on Challenges in Plasma Spectroscopy for Future Fusion Research Machines, Jaipur, India, 20 - 22 February 2008
 10. R. Manchanda, M. B. Chowdhuri, **Santanu Banerjee**, Vinay Kumar, H. Joshi, Ketan. M. Patel, J. Ghosh and P. Vasu, "Observation of Mirnov and Saw-teeth oscillations in visible emissions from Aditya tokamak", 6th conference of Asian Plasma and Fusion Association (APFA), Institute for Plasma Research, Gandhinagar, India, 3 – 5 December 2007
 11. R. Dey, J. Ghosh, P. Vasu, N. Ramasubramanian, Vinay Kumar, **Santanu Banerjee**, R. Manchanda, H.C. Joshi, K.M. Patel, P.K. Chattopadhyay, R.L. Tanna, B. Paradkar, D. Raju, R. Jha, P.K. Atrey and Aditya Team, "Studies of oxygen impurity transport in ADITYA tokamak using STRAHL code", 6th conference of Asian Plasma and Fusion Association (APFA), Institute for Plasma Research, Gandhinagar, India, 3 – 5 December 2007
 12. J. Ghosh, Vinay Kumar, P. Vasu, **Santanu Banerjee**, R. Manchanda, Bhooshan Paradkar, R.L. Tanna, P.K. Chattopadhyay, R. Jha, D. Raju, Y.C. Saxena and Aditya Team, "Measurement of Ion Pfirsch-Schlüter flows in the edge region of the Aditya tokamak", 17th technical meeting on research using small fusion devices, Lisbon, Portugal, 22 – 24 October 2007
 13. **Santanu Banerjee** and P. Vasu, "Tomographic reconstruction of emissivity profile for both main and divertor plasma from tangentially viewed images using pixel method", First ITER Summer School, Aix-en-Provence, France, July 16-20, 2007
 14. **Santanu Banerjee**, Asim Kumar Chattopadhyay and P. Vasu, "Tomographic reconstruction of emissivity profile from tangentially viewed images using pixel method", Proc. 16th International Toki Conference, Ceratopia Toki, Gifu, JAPAN, Dec 05-08, 2006. (P10-02)

□ *National Conferences*

1. **Santanu Banerjee**, R. Manchanda, Ketan M. Patel, N. Ramaiya, J. Ghosh, Vinay Kumar, M.B. Chowdhuri, P. Vasu and ADITYA Team, "Tangential Visible Imaging and Poloidal Emissivity Reconstruction of ADITYA Plasma", 24th National Symposium on Plasma Sci. & Tech., Hamirpur, India, Dec 8-11, 2009
2. **Santanu Banerjee**, J. Ghosh, R. Manchanda, R. Dey, N. Ramasubramanian, M.B. Chowdhuri, K.M. Patel, V. Kumar, P. Vasu, P.K. Chattopadhyay, P.K. Atrey, R. Jha and Aditya Team, "Observations of H_{α} Emission Profiles and Study of Neutral Particle Transport in ADITYA Tokamak", 24th National Symposium on Plasma Sci. & Tech., Hamirpur, India, Dec 8-11, 2009
3. R. Manchanda, **Santanu Banerjee**, Ketan M. Patel, N. Ramaiya, J. Ghosh, Vinay Kumar, M.B. Chowdhuri, P. Vasu and ADITYA Team, "VUV Spectroscopy in ADITYA Tokamak", 24th National Symposium on Plasma Sci. & Tech., Hamirpur, India, Dec 8-11, 2009
4. N. Ramaiya, R. Manchanda, **Santanu Banerjee**, P. Mehta, N. Ramasubramanian, and J. Ghosh, "Absolute Intensity Calibration of Spectroscopic Systems on Aditya Tokamak Using Integrating Sphere", 24th National Symposium on Plasma Sci. & Tech., Hamirpur, India, Dec 8-11, 2009
5. R. Manchanda, **Santanu Banerjee**, K. M. Patel, J. Ghosh, Vinay Kumar, P. Vasu and Aditya and SST-1 team, "Hydrogen molecules for electron temperature diagnostic of plasmas", 23rd National Symposium On Plasma Sci. & Tech., Mumbai, Dec 2008
6. **Santanu Banerjee**, R. Manchanda, Vinay Kumar, K. M. Patel, J. Ghosh, Ritu Dey, N. Ramasubramanian, H.C. Joshi and P. Vasu, "A Spectroscopic Diagnostic Method Using UV OH Spectrum as a Molecular Pyrometer and Exploring its Applicability for Temperature Measurements

- of Penning Discharge Plasma under Varied Conditions”, Oral presentation at 22nd National Symposium On Plasma Sci. & Tech., Ahmedabad, Dec 06-10, 2007
7. **Santanu Banerjee**, R. Dey, J. Ghosh, R. Manchanda, Vinay Kumar, K. M. Patel, N. Ramasubramanian, H.C. Joshi, P. Vasu and ADITYA Team, “Application of the Line Intensity Ratio Method on Different Charged States of Oxygen for the Measurement of Electron Density and Temperature Profiles for ADITYA Plasma”, 22nd National Symposium On Plasma Sci. & Tech., Ahmedabad, Dec 06-10, 2007
 8. R. Dey, J. Ghosh, P. Vasu, V. Kumar, **Santanu Banerjee**, R. Manchanda, N. Ramasubramanian, H. Joshi, K. Patel, P. K Chattopadhyay, R.Tanna, B. Paradkan, D. Raju, R. Jha, P. K. Atrey and Aditya team, “Investigation of oxygen impurity transport in ADITYA tokamak”, 22nd National Symposium On Plasma Sci. & Tech., Ahmedabad, Dec 06-10, 2007
 9. N.C.Patel, **Santanu Banerjee**, Sexana Y.C, Chhaya & Aditya Data Acquisition Group, “Automation of Image Recording in PC during Aditya shots”, Proc. 21st Nat. Symp. on Plasma Sci. & Tech., Malaviya National Institute of Technology, Jaipur, Rajasthan, Dec. 19-22, 2006. (P-92)
 10. **Santanu Banerjee**, M. B. Chowdhuri, R. Manchanda, V. Kumar, P. Vasu and Aditya Team, “Intensity Calibration for Multi-Track Spectrometer”, Proc. 20th Nat. Symp. on Plasma Sci. & Tech., Cochin University of Science and Technology, Cochin, Dec 05-07, 2005. (PD-22)
 11. Joydeep Ghosh, V. Kumar, **Santanu Banerjee**, R. Manchanda, M. B. Chowdhuri, P. Vasu and Aditya Team, “Spectroscopic Measurements of impurity ions and hydrogen atom temperatures, velocities and their emission profiles in the Aditya Tokamak”, Proc. 20th Nat. Symp. on Plasma Sci. & Tech., Cochin University of Science and Technology, Cochin, Dec 05-07, 2005. (PD-02)
 12. N. Ramasubramanian, P. Vasu, **Santanu Banerjee**, M. B. Chowdhuri, R. Manchanda, Vinay Kumar and Aditya team “Exploration of toroidal asymmetries in the edge radiation profile of ADITYA tokamak”, Proc. 20th Nat. Symp. on Plasma Sci. & Tech., Cochin University of Science and Technology (CUSAT), Cochin, Dec 05-07, 2005. (FT-36)
 13. P. Vasu, M. B. Chowdhuri, R. Manchanda, **Santanu Banerjee**, H. C. Joshi and Vinay Kumar “Analysis of the VUV and Visible spectral lines from a Penning discharge using CR model”, Proc. 20th Nat. Symp. on Plasma Sci. & Tech., Cochin University of Science and Technology (CUSAT), Cochin, Dec 05-07, 2005. (PD-21)
 14. Vinay Kumar, **Santanu Banerjee**, M. B. Chowdhuri, R. Manchanda, P. Vasu, and Aditya Team, “Studies on chord integrated intensity profile of impurities in Aditya discharges by Multi-track spectrometer”, Proc. 19th Nat. Symp. on Plasma Sci. & Tech., Jhansi, Dec 07-10, 2004
 15. Sameer Kumar, **Santanu Banerjee**, D. Raju, Kumudni Tahiliani and R. Jha, “Opto-Magnetic Current Sensor for Steady State Current Measurement in SST-1 Tokamak”, Proc. 18th Nat. Symp. on Plasma Sci. & Tech., Ranchi, Dec 07-10, 2003

□ *Visits*

1. International Fusion Energy Research Center, Rokkasho, Aomori Prefecture, Japan, Oct 30, 2009
2. IEF-4, Forshungszentrum, Juelich, Germany and TEXTOR Tokamak, Sep 22-Dec 13, 2008
3. FOM Institute voor Plasmaphysica and Magnum PSI, The Netherlands, Dec 04, 2008
4. Frascati Tokamak Upgrade (FTU) at Frascati, Rome, Italy on July 24, 2007
5. Tore Supra Tokamak at Cadarache, France on July 19, 2007
6. JT-60U Tokamak, Naka Fusion Institute, Japan Atomic Energy Agency, Naka, Ibaraki, Japan, Dec 14, 2006. Delivered a talk there on “Diagnostics on visible emissions from plasma at IPR”
7. Large Helical Device, National Institute for Fusion Science, 322-6, Oroshi-cho, Toki, GIFU, 509-5292, Japan on Dec 11-12, 2006