

Resume 2017

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I. Professional Preparation:

A. Educational Degrees

Ph. D. Physical Research Laboratory, India 1990
M. S, Physics, Kurukshetra University, Kurikshetra, India 1981

B. Field of Specialization: Optical Astronomical Instrumentation, Solar Physics, Solar System Astronomy and Interstellar Medium.

2. Academic/Professional Appointments:

A. Permanent Appointments:

California State University Northridge	2014	Present	Professor
	2010	2014	Associate Professor
	2004	2010	Assistant Professor
Physical Research Laboratory, India	2000	2003	Reader
	1992	2000	Scientist-D

B. Visiting Appointments:

Center for Space Science & Technology Education in Asia and Pacific (CSSTEAP)	2013	2013	Visiting Faculty
Indian Institute of Astrophysics, Bangalore	2011	2011	Visiting Professor
Institute of Space and Astron. Science/ JAXA, Japan	2009	2009	Visiting Professor
Marshall Space Flight Center/NASA	2003	2004	Senior Res. Assoc. (NRC)
National Astronomical Observatory Japan	2001	2001	Center of Excellence Fellow
Marshall Space Flight Center/NASA	1998	1999	Research Assoc. (NRC)
National Solar Observatory, Tucson	1996	1997	Visiting Scientist
Beijing Astronomical Observatory	1995	1995	Visiting Professor
Inter-University Center for Astron. and Astrophysics	1991	1992	Postdoctoral Fellow
Max-Planck-Institute, Lindau, Germany	1990	1991	Max-Planck Fellow
Observatory de Besancon, France	1989	1989	Visiting Fellow
Physical Research Laboratory, India	1988	1990	Postdoctoral Fellow
Physical Research Laboratory , India	1982	1988	Visiting Scientist

3. Awards:

2012: CSUN Provost Certificate for QOLT Program (Online course design)
2011: NASA Appreciation for Committee Service
2009: Visiting Associate Professor at Institute of Space and Astronautical Sciences, Japan Aerospace Exploration Agency, Sangamihara, Japan
2005: NSF CAREER award
2003: National Research Council Senior Associate
2002: Center of Excellence Fellowship at National Astronomical Observatory of Japan
2001: Best Paper Award, Astronomical Society of India
1998: National Research Council, Associate
1989: Max-Planck Society Fellowship
1990: Nominee for Yong Scientist Award, INSA (Indian national Science Academy)
1996: Distinguished Alumni of Kurukshetra University
1979: Seth Korarimal merit Scholarship (During MS studentship)
1975: National Merit Scholarship (in high school)

4. TEACHING EFFECTIVENESS AND DIRECT INSTRUCTIONAL CONTRIBUTIONS:

A. Class Room Teaching: For past 15 years, taught both undergraduate and graduate level classes from the list of courses, the details of which can be found in the Catalogue of CSUN.

B. Student Research Experience:

Graduate Advising: (MS Thesis) Gasia Bedrosian, (2005), Gulsum Oz, (2006), Tejomoortula, U., (2009), Gordon A. MacDonald (2011), Max Norris (2012-2013), Luis Contreas (2012-2013), Kemal A. Yassin (2012-2014)

Undergraduate Advising: Trevor W Leonard (2006) (joined the Ph. D program of University of New Hampshire), Nakatsukasa Ken, Max Norris

Mentor: Steve Dave, G. E. Honors faculty mentor Program.

Besides these long-term advisements, I have supervised a number of students for their independent research projects.

C. Post Doctoral Fellow and Visiting Scientists:

Dr. Na Deng, CSUN, Northridge, USA,

Dr. K. E. Rangarajan, IIA, Bangalore, India.

D. Teaching Tools Development:

1. Participated in developing a highly successful “Smart Lab” for Astr154L.

2. Developed four advanced optics experiment units for physics majors.

2. Developed “smart tools” for a selected group of students in the Smart Lab for Astr154L.

E. Professional Meetings and discussion groups on Teaching:

1. New Faculty Reunion Workshop, AAPT 2012

2. ALPhA Immersion Program, Caltech 2011

3. New Faculty Reunion workshop, APS meeting at Pittsburgh, PA 2009

4. Voice Coaching for Faculty Fall 2008 Workshop Series 2008

5. New Faculty Reunion Workshop, AAPT 2007

6. American Asso. of Physics Teachers, Summer Meeting, SaltLakeCity, UT 2005

7. New Faculty Workshop of American Physical Society, AAPT 2004

8. Participant of Student Engagement group II of CELT of CSUN 2004

F. Projects: Leaner Centered Astronomy: Promoting Science Inquiry and Teamwork in Astr154L, Funded by the Provost’s office, 2. Information Competence in Astronomy and Space Science, Funded by CSU Chancellor’s office, 3. Developed Optics Laboratory for senior Undergraduate and Graduate courses.

5. CONTRIBUTION TO THE FIELD OF STUDY:

A. Publications: About 78 refereed and non-refereed publications. The * sign indicates the student co-authorship. Recent publications are listed here.

Refereed publications: Book Edited: Choudhary, D. P., Strassmeier, K., The Physics of Sun and Star Spots, Proceedings of the IAU Symposium, Volume 273, ISBN 1743-9213, Cambridge University Press, 2011

Journal Publications:

1. Chowdhury, Partha; Choudhary, D. P.; Gosain, S.; Moon, Y.-J., 2015, Short-term periodicities in interplanetary, geomagnetic and solar phenomena during solar cycle 24, *Astrophys. Space. Sci.*, 356, 7.
2. Beck, C.; Choudhary, D. P.; Rezaei, R.; Louis, R. E., 2015, Fast Inversion of Solar Ca II Spectra, *Astrophys. J.*, 798,100
3. Beck, C.; Choudhary, D. P.; Rezaei, R, 2014, A Three-dimensional View of the Thermal Structure in a Super-penumbral Canopy, 2014, *Astrophys. J.*, 788,183
4. Awasthi, A. K., Jain, R., Gadhiya, P. D., Aschwanden, M. J., Uddin, W., Srivastava, A. K., Chandra, R., Gopalswamy, N., Nitta, N., Yashiro, S., Manoharan, P. K., Choudhary, D. P., Joshim N. C., Dwivedi, V. C., and Mahalakshmi, K., 2014, Multi-wavelength diagnostics of the precursor and main phases of an M1.8 flare on 2011 April 22, *Mon. Not. R. Astron. Soc.*, 347, 2249.
5. *Choudhary, D. P., Lawrence, J., K., Norris, M., Cadavid, A., C., 2014, Periodicities in the occurrence of Solar Flare, Coronal Mass Ejection and Sunspot Area in Solar Cycle 23-24, *Solar Physics*, 289, 649
6. Yashiro, S.; Gopalswamy, N.; Mäkelä, P.; Akiyama, S.; Uddin, W.; Srivastava, A. K.;

- Joshi, N. C.; Chadra, R.; Manoharan, P. K.; Mahalakshmi, K.; Dwivedi, V. C.; Jain, R.; Awasthi, A. K.; Nitta, N. V.; Aschwanden, M. J.; **Choudhary, D. P.**, 2014, Homologous flare-CME events and their metric type II radio burst association, *Adv. Space Sci.*, 54, 1941.
7. Dwivedi, V., P.K. Manoharan, Nat Gopalswamy, Pertti Makela, Seiji Yashiro, K. Mahalakshmi, R Selvakumaran, Sachiko Akiyama, Hong Xie, W. Uddin, Rajmal Jain, Debi Prasad Choudhary, Arun Awasthi, Veenadhari Bhaskara, Nariaki Nitta, ramesh chandra, Navin Joshi, Abhishek Srivastava, 2013, Geoeffectiveness of shock driving interplanetary coronal mass ejections, *J. Geophys. Res.*, (Under review).
 8. Liu, C., Xu, Y., Deng, N., Lee, J., Zhang, J., **Choudhary, D. P.**, Wang, H., 2013, He I D3 Observations of the 1984 May 22 M6.3 Solar Flare, 2013, *Astrophys. J.*, 774, 60L.
 9. Choudhury, P., **Choudhary, D. P.**, Gosain, S., 2012, A Study of the Hemispheric Asymmetry of Sunspot Area during Solar Cycles 23 and 24, 2013, *ApJ.*, 768, 188
 10. Ramesh Chandra; Natchimuthukonar Gopalswamy; P. Mäkelä; H. Xie; S. Yashiro; S.Akiyama; W. Uddin; A. K. Srivastava; N. C. Joshi; P. Kayshap; R. Jain; A. K. Awasthi; P. K. Manoharan; K.Mahalakshmi; V. C. Dwivedi; **D. P. Choudhary**; N. V. Nitta, 2013, Solar Energetic Particle Events during the Rise Phases of Solar Cycles 23 and 24, *Adv. Space Sci.*, 52, 2102.
 11. Navin C Joshi, Wahab Uddin, Abhishek K Srivastava, Ramesh, Chandra, Natchimuthukonar Gopalswamy, Periasamy K Manoharan, Markus J. Aschwanden, **D. P. Choudhary**, Rajmal Jain, Nariaki V Nitta, H Xie, Seiji Yashiro, Sachik Akiyama, Pertti Makela, Pradeep Kayshap, Arun K Awasthi, Vidya C Dwivedi, K Mahalakshmi, 2012, Multi-wavelength Study of Eruptive Events on January 23, 2012 Associated with a Major Solar Energetic Particle Event, 2013, *Adv. Space Sci.*, 52, 1.
 12. **Choudhary, D. P.**, Gosain, S., 2012, Reconciling Halpha Observations of Loop-Prominence Eruption during 8 September 2001 with Emerging Flux Trigger Mechanism, *Solar Physics*, (Under Review).
 13. Gopalswamy, N.; Xie, H.; Mäkelä, P.; Yashiro, S.; Akiyama, S.; Srivastava, W. Uddin. A. K.; Joshi, N. C.; Chandra, R.; Manoharan, P. K.; Mahalakshmi, K.; Dwivedi, V. C.; Awasthi, R. Jain A. K.; Nitta, N. V.; Aschwanden, M. J.; **Choudhary, D. P.**, 2013, Height of Shock Formation in the Solar Corona Inferred from Observations of Type II Radio Bursts and Coronal Mass Ejections, *Adv. Space Sci.*, 51, 1981.
 14. **Choudhary, D. P.**, Photospheric flows in the active regions (asymmetric and localized Doppler velocities), *Advances in Space Research*, Volume 49, Issue 2, p. 416-431
 15. **Choudhary, D. P.**, Shimizu, T., 2012, Sunspot Bright Points, *Solar Phys.* DOI: 10.1007/s11207-013-0306-8

Refereed Conference Proceedings:

1. ***Choudhary, D. P.**; Toshifumi, S.; MacDonald, G. A., Properties of 16 Sunspots Observed with Hinode Solar Optical Telescope, *Hinode-3: The 3rd Hinode Science Meeting, Proceedings of the conference held 1-4 December 2009 at Hitotsubashi Memorial Hall, Tokyo, Japan.* Edited by T. Sekii, T. Watanabe, and T. Sakurai. ASP Conference Series, Vol. 454. San Francisco: Astronomical Society of the Pacific, 2012., p.197
2. *MacDonald, G. A.; Yassin, K. A.; **Choudhary, D. P.**, Stokes Profiles at the Narrow Magnetic Lanes of Sunspots, *Hinode-3: The 3rd Hinode Science Meeting, Proceedings of the conference held 1-4 December 2009 at Hitotsubashi Memorial Hall, Tokyo, Japan.* Edited by T. Sekii, T. Watanabe, and T. Sakurai. ASP Conference Series, Vol. 454. San Francisco: Astronomical Society of the Pacific, 2012., p.201
3. *Deng, N.; **Choudhary, D. P.**; Balasubramaniam, K. S., Diagnosis of Flow and Magnetic Fields Using Simultaneous Spectro-Polarimetry of Photospheric Fe I

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- and Chromospheric Mg I lines, Hinode-3: The 3rd Hinode Science Meeting, Proceedings of the conference held 1-4 December 2009 at Hitotsubashi Memorial Hall, Tokyo, Japan. Edited by T. Sekii, T. Watanabe, and T. Sakurai. ASP Conference Series, Vol. 454. San Francisco: Astronomical Society of the Pacific, 2012., p.229
4. **Choudhary, D. P.;** Deng, N., Photospheric and Chromospheric Measurements of a High-Speed Flow near the Light Bridge of a δ -Spot, The Second ATST-EAST Meeting: Magnetic Fields from the Photosphere to the Corona. ASP Conference Proceedings, Vol. 463. Edited by T. Rimmele, A. Tritschler, F. Wöger, V. Collados, H. Socos-Navarro, R. Schlichenmaier, M. Carlsson, T. Berger, A. Cadavid, P. Gilbert, P. Goode, and M. Knölker. San Francisco: Astronomical Society of the Pacific, 2012, p.43
 5. **Choudhary, Debi Prasad;** MacDonald, Gordon A.; Deng, Na; Toshifumi, Shimizu, Structure of sunspots observed with Hinode Solar Optical Telescope, The Physics of Sun and Star Spots, Proceedings of the International Astronomical Union, IAU Symposium, Volume 273, p. 478-482
 6. Hu, Qiang; Deng, Na; **Choudhary, Debi P.;** Dasgupta, B.; Su, Jiangtao, The solar active region magnetic field and energetics, The Physics of Sun and Star Spots, Proceedings of the International Astronomical Union, IAU Symposium, Volume 273, p. 369-373
 7. Deng, Na; Shimizu, Toshifumi; **Choudhary, Debi Prasad;** Wang, Haimin, What determines the penumbral size and Evershed flow speed?, The Physics of Sun and Star Spots, Proceedings of the International Astronomical Union, IAU Symposium, Volume 273, p. 216-220
 8. Hu, Q., Dasgupta, B., **Choudhary, D. P.**, 2007, Application of the principle of minimum dissipation rate to solar coronal magnetic field extrapolation, In "Turbulence and Nonlinear Processes in Astrophysical Plasmas", American Institute of Physics, 376.
 9. D. P. Choudhary, K. S. Balasubramanian, Y. Suematsu, 2004, Asymmetric Stokes-V profile at the penumbral boundary of a sunspot, 2004, ASPCS, 325, 137-142
 10. West, E. A., Gary, G. A., Noble, M., **Choudhary, D. P.**, Robinson, B., 2005, **Large Field-of-View KD*P Modulator for Solar Polarization Measurements**, Proc. SPIE Vol. 5888, 588806, Polarization Science and Remote Sensing II; Joseph A. Shaw, J. Scott Tyo; Eds.

Conferences presentations:

1. Choudhary, D. P.; Beck, C.; Rezaei, R., 2014, Three Dimensional Chromospheric Temperature Structure of Sunspot, American Geophysical Union, Fall Meeting 2014, abstract #SH41B-4132
2. Contreras, Luis D.; Choudhary, D. P., Chromospheric Properties of Sun as a Star, American Astronomical Society, AAS Meeting #221, #159.04
3. Choudhary, D. P.; Lawrence, J., K., Norris, M., Cadavid, A., C., 2012, Periodicities in the occurrence of Solar Flare, Coronal Mass Ejection and Sunspot Area in Solar Cycle 23-24, Solar Physics, American Geophysical Union, Fall Meeting 2012, abstract #SH31A-1987
4. Choudhary, D. P.; Sakurai, T., Chromospheric Magnetic Field of Solar Active Regions, American Geophysical Union, Fall Meeting 2011, abstract #SH31A-1987
5. Macdonald, G. A.; Hirzberger, J.; Solanki, S.; Choudhary, D. P., Fast Up-flows Observed on Granules with Sunrise, American Geophysical Union, Fall Meeting 2011, abstract #SH13B-1985
6. Choudhary, D. P., Research and Education in Solar Physics at CSUN, American Geophysical Union, Fall Meeting 2011, abstract #ED43B-0544

7. Deng, Na; Liu, C.; Choudhary, D.; Wang, H., Rapid Enhancement of Sheared Evershed Flow Along the Neutral Line Associated with an X6.5 Flare Observed by Hinode, American Astronomical Society, SPD meeting #42, #22.32; Bulletin of the American Astronomical Society, Vol. 43, 2011
8. Deng, Na; Shimizu, T.; Choudhary, D., The Relationship Among Magnetic Field Configuration, Penumbral Size, and Evershed Flow Speed, American Astronomical Society, AAS Meeting #216, #403.08; Bulletin of the American Astronomical Society, Vol. 41, p.879
9. Choudhary, D. P.; Yassin, Kemal A., Net Circular Polarization Maps of Stokes-Profiles with Hinode Observations, American Astronomical Society, SPD meeting #40, #9.14; Bulletin of the American Astronomical Society, Vol. 41, p.819
10. Choudhary, D. P., Chromospheric Properties of Sun as a Star, oral presentation, JD3 "3D Views of the Cycling Sun in Stellar Context" at the XXVII General Assembly of the International Astronomical Union, in Beijing, China, on 20-22 August 2012

B. Reviewer of NSF, NASA and Scientific Journals:

Proposal: National Science Foundation (NSF), National Aeronautics Space Administration (NASA), Department of Defense (DoD) and the American Society for Engineering Education (ASEE), NASA Post Doctoral Program

Journals: The Astrophysical Journal, Astronomy and Astrophysics, Journal of Geophysical Research, Solar Physics

C. Invited Talks (Recent ones):

1. 2013 January, 2 "Structure of Sunspots", Colloquium Physical Research Laboratory
2. 2013 January, 9 "Chromosphere magnetic field of solar active regions", Seminar, Astronomy and Astrophysics Group, Physical Research Laboratory
3. 2012 Seminar, "Structure of Sunspots", Indian Institute of Astrophysics
4. 2011 Seminar, "Structure of Sunspots", Udaipur Solar Observatory, Udaipur
5. 2010 April 16, Space Physics Seminar on "Anatomy of Sunspot", University of California Los Angeles

D. Member of Scientific Association:

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| 1. Astronomical Society of India (ASI) | 5. European Geophysical Society (EGS) |
| 2. International Astronomical Union (IAU) | 6. American Geophysical Union (AGU) |
| 3. American Astronomical Society (AAS) | 7. American Association for Advancement of Science (AAAS) |
| 4. Solar Physics Division of AAS (SPD) | 8. Indian Society for Atomic and Molecular Physics (ISAMP) |

E. External Funding:

1. 3D Thermal and Magnetic Structure of Sunspots, NSF, 2015-2018 \$280,115.00
2. MRI: Development of a Solar Photometric Instrument: Cartesian Full Disk Telescope (SOPHI-CFDT3), NSF, 2014-2017 \$493,852.00
3. Solar Spectral Irradiance, Lyman alpha, Magnesium, and Sigma K proxies NASA, 2015-2018 \$351,929.00
4. 2011-2013 Indo-US Science & Technology Forum for R&D Network \$25000.00
center on "Multiwavelength Study of Solar Eruptive Phenomena and their Interplanetary Response"
- 2009 NASA-LWS proposal "IAU Symposium 273 on the Physics of the Sun and Star Spots": (PI Cadavid) \$18,525.00
- 2009 NSF proposal for funding "International Astronomical Union (IAU) Symposium 273" in Astronomy and Astrophysics division. \$ 22,395.00

Internal:

1. 2009 Probationary Faculty Support Program: 3 units of release time
2. 2007 Learning Centered University Mini-grant for 2007 "Learner Centered Astronomy: \$9300.00
3. 2006 Learning Centered Univ. Mini-grant "Learner Centered Astronomy: \$9300.00
4. 2006 Trustees of the California State University: Information Competency initiative grant, Information Competence in Astronomy and Space Sciences: \$9000.00
5. 2005 Scholarship and Creativity Award, California State University: \$5000.00

F. Visits and Talks at Distinguished Institutes:

1. 2013: Physical Research Laboratory, Indian Space Research Laboratory
2. 2012: Indian Institute of Astrophysics, Bangalore
3. 2010: CSUN Physics and Astronomy Colloquium February 17, 2010
4. 2010: Space Physics Seminar, Dept of Earth and Space Sciences, UCLA, Apr 16
5. 2009: Hida Observatory, Kyoto University, Japan, 2009

G. Organizing the Professional Meeting:

1. Special Sessions in AGU Fall Meeting 2015 December 14-18, San Francisco
2. SH13D Thermal and Magnetic Structure of Solar Active Regions from the Photosphere to the Corona. Conveners: D. P. Choudhary, Valentin M. Pillet, Reza, Rezaei
3. SH23B Solar Spectral Irradiance: Measurements, Models, and Proxies
Conveners: Martin Snow, Janet, Machol, Thomas Woods
4. August 13-17, 2012: ST01: Magnetic Field of Exploding Solar Active Regions, Main Convener(s): Dr. Debi Prasad Choudhary et al.
5. August 23-26, 2010: Co-Chair of IAU Symposium 273 on "Physics of Sun and Star Spots", with following
6. June 2006: Co-Chair of the scientific organizing committee of Joint Discussion Session 03 at International Astronomical Union General Assembly 2006. The details of the General Assembly can be found at <http://www.astronomy2006.com/>.
7. May 23-27, 2005: Special Session SH11 on "Magnetic Fields in CME Source Regions" was organized for the 2005 SPD Meeting.