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Name of the Faculty Member:

Prof. Sandeep Sahijpal

Designation:

Professor (Physics)

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Area of Specialization:

Astrophysics and Planetary Sciences

Award/ Honours/ Fellowship etc.:

1. National Scholarship by Government of India for 1990-91.
2. Silver medal for standing first in B. Sc. III (Hons. School) Physics by University.
3. Research scholarship for Ph.D. from Physical Research Laboratory, Ahmedabad.
4. Post-Doctoral fellowship from Physical Research Laboratory, Ahmedabad.
5. Post-Doctoral fellowship from University of California, Los Angeles.

Highlight of Research work:

• **Astrophysics:** The origin & evolution of the Milky-way galaxy; the stellar nucleosynthesis & the isotopic abundance evolution of the galaxy since the big-bang around 13.7 billion years ago; the astrophysical aspects related with the origin of the solar system around 4.56 billion years ago.

• **Planetary sciences:** Nature of the sun in its infancy; the irradiation environment and the physico-chemical processes in the early solar system; the planetary differentiation and aqueous alteration of planetesimals, asteroids and minor planets; the thermal evolution of icy bodies (Trans-Neptunian Objects- TNOs); the thermal evolution of satellites of Jupiter, Saturn, Uranus and Neptune; the minor planets, Ceres, Pluto, etc.

Origin and the early evolution of Mercury, Mars.

Other academic interests: Operation of an 11" Schmidt-Cassegrain astronomy telescope facility.

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Research Funding Agency: PLANEX – Planetary Sciences & Exploration (ISRO)

List of ten best publications:

1. Bhatia G. K. and **Sahijpal S.** (2017) Did ^{26}Al and impact induced heating differentiate Mercury? *Meteoritics & Planetary Science J.* **52**, 295-319.
2. Bhatia G. K. and **Sahijpal S.** (2016) The early thermal evolution of Mars. *Meteoritics & Planetary Science J.* **51**, 138-154.

3. **Sahijpal S.** and Gupta G. (2013) Numerical simulation of the galactic chemical evolution: The revised solar abundance. *Meteoritics & Planetary Science J.* **48**, 1007-1033.
4. **Sahijpal S.** and Gupta G. (2011) Did the carbonaceous chondrites evolve in the crustal regions of partially differentiated asteroids? *J. Geophysical Research (Planets)* **116**, E06004, pp. 10.
5. Gupta G. and **Sahijpal S.** (2010) Differentiation of Vesta and the parent bodies of other achondrites. *J. Geophysical Research (Planets)* **115**, E08001, pp. 15.
6. **Sahijpal S.**, and Gupta G. (2009) The plausible source(s) of ^{26}Al in the early solar system: A massive star or the X-wind irradiation scenario? *Meteoritics & Planetary Science J.* **44**, 879-890.
7. **Sahijpal S.** and Soni P. (2007) Numerical simulations of production of extinct short-lived nuclides by magnetic flaring in the early solar system. *Meteoritics & Planetary Science J.* **42**, 1005-1027.
8. **Sahijpal S.** and Soni P. (2006) Stellar nucleosynthetic origin of the extinct short-lived nuclei in the early solar system and the associated isotopic effects. *Meteoritics & Planetary Science J.* **41**, 953-976.
9. **Sahijpal S.**, Goswami J.N. and Davis A.M. (2000) K, Mg, Ca and Ti isotopic compositions and refractory trace element compositions of hibonites from CV and CM meteorites. *Geochimica et Cosmochimica Acta* **64**, 1989-2005.
10. **Sahijpal S.** and Goswami J.N. (1998) Refractory phases in Primitive Meteorites devoid of ^{26}Al and ^{41}Ca : Representative samples of first solar system solids? *Astrophysical J. Letters* **509**, L137-140.

[Detailed list of my publications from NASA Astrophysics Data System Researchgate](#)

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