

VAHÉ PETROSIAN
CURRICULUM VITAE

Professor of Physics and Applied Physics, Stanford University
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Professional Experience

1961 Teaching Asst, Cornell University
1962-67 Research Asst, CRSR, Cornell Univ.
1967 Research Assoc, CRSR, Cornell Univ.
1967-69 Research Fellow, Calif. Inst. Technology
1969 Visiting Scientist, IOTA Cambridge
1969-71 Assistant Professor, Stanford Univ.
1971 Consultant, Kitt Peak Natl Observatory
1972-79 Associate Professor, Stanford Univ.
1980- Professor, Stanford University
1982-83 Arcetri, Florence; NOAO, Tucson, AZ;
Nordita, Copenhagen; Cornell Univ.
1989-90 Observatoire de Meudon, France.
1996 Space Telescope Science Institute
1998 NOAO, Tucson, AZ
2000 Inst. Adv. Studies; Bochum Univ.

Education

Cornell University 1958-62, B.E.E.
Cornell University 1962-63, M.S.
Thesis Advisor Marshall Cohen
Cornell University 1963-67, Ph.D.
Thesis Advisor Edwin Salpeter

Honors and Awards

1958-62 Iranian National Fellowship
1963-64 Industrial Fellowship, Cornell University
1972-74 Alfred P. Sloan Foundation Fellowship
Member Eta Kappa Nu, Tau Beta Pi

Professional Associations

Royal Astronomical Society
International Astronomical Union
American Astronomical Society

Graduate Students

Richard L. Epstein	1973
William M. Adams	1973
Robert Pelzman	1975
Roger A. Dana	1977
Steven H. Langer	1978
John Leach	1984
Philip B. Duffy	1986
James M. McTiernan	1989
Edward T. Lu	1989
Russell J. Hamilton	1990
Greg Kopp	1991
David Caditz	1991
Anton Bergmann	1992
Brian Park	1997
Ted Lee	1997
Walid Azzam	1997
David Saraniti	1997
Julia Pryadko	1998
Nicole Lloyd	2001
Michael Dorris	Current
Wei Liu	Current
Yanwei Jiang	Current

Postdoctoral Associates

J.J. Brainerd	1987-1989
A. Wandel	1988-1990
D. Hartmann	1990-1991
R. Dung	1992-1993
E. Linder	1992-1993
F. Ryde	2001-2002
S. Liu	2002-2005

Honor Thesis Undergraduates

John Dickey	1973
Mark Soldate	1977
Shimpei Yamashita	1996
Alex Maloney	1998
Tim Donaghy	2000
Joel Hartman	2003
Matt McQuinn	2004
Kevin Luli	2005
Justin Pelzer	2006

Current Research interests

The research interests of Professor Petrosian have been in two broad areas of high energy astrophysics and cosmology. The former area includes studies of acceleration, transport and radiation of non-thermal particles, developed primarily for application to solar flares. This work has also found application in variety of other astrophysical sources including accretion disks, Gamma-ray bursts and Clusters of Galaxies. The work in cosmology is focused on evolution of galaxies and quasars (and AGNs in general), and in luminous arcs in clusters of galaxies (of which he is a co-discoverer) and gravitational lensing. Another interest has been in the area of statistical methods relevant to analysis of astronomical data. This work carried out in collaboration with B. Efron of the Statistics Department at Stanford has been concentrated on development of new non-parametric methods for determination of distribution of astronomical sources from truncated data.

Sample Publications

For a complete listing go to url: www.stanford.edu/dept/astro/group.html and click on ADS. Or click on astro-ph for recent papers.

Gamma-Ray Burst (> 40 publications)

1. N. Lloyd and V. Petrosian, 1998, "Distribution of Spectral Characteristics and the Cosmological Evolution of GRBs," ApJ.
2. Felix Ryde and V. Petrosian, 2002, "Gamma-Ray Burst Spectra and Light Curves as Signature of a Relativistically Expanding Plasma", ApJ 578, 290.

Quasar and AGN (>20 publications)

1. V. Petrosian, 1995, "The Evolution of Gamma-Ray Loud Active Galactic Nuclei," ApJ, 452, 156.

Solar Flares (> 70 publications)

1. V. Petrosian, S. Liu, 2004, "Stochastic Acceleration of Electrons and Protons. I. Acceleration by Parallel-Propagating Waves" ApJ, 610, 550.
2. V. Petrosian, 1996, "Acceleration and Heating by Turbulence in Flares," AIP Proceedings 374, 445, eds. R. Ramaty, H. Mandzhuwidze and X.-M. Hua.

Statistical Methods (>15 publications)

1. V. Petrosian, 1992, "The Luminosity Function of Flux Limited Samples," in Proc. Conf. Statistical Challenges in Modern Astronomy.
2. B. Efron and V. Petrosian, 1994, "Survival Analysis of the Gamma-Ray Burst Data," JASA, 89, 452.

Others (> 100 publications)

1. R. Lynds and V. Petrosian, 1989, "Luminous Arcs in Clusters of Galaxies," ApJ, 336,
2. V. Petrosian, 2001, "On the Nonthermal Emission and Acceleration of Electrons in Coma and Other Clusters of Galaxies," ApJ, 557, 560.
3. V. Petrosian 1998 "New and Old Tests of Cosmological Models and Evolution of Galaxies", ApJ, 507, 1