



Vahe Petrosian

Professor of Physics and of Applied Physics

 Curriculum Vitae available Online

CONTACT INFORMATION

- **Administrative Contact**

Dana Volponi

Email danav@stanford.edu

Tel 6507231439

Bio

BIO

How do things evolve in the universe? How are particles accelerated in the universe?

Professor Petrosian's research covers many topics in the broad area of theoretical astrophysics and cosmology, with a strong focus on high-energy astrophysical processes.

Cosmological studies deal with global properties of the universe, where the main focus is the understanding of the evolution of the universe at high redshifts, through studies of the evolutions of population of sources such as galaxies and quasars or active galactic nuclei, gamma-ray bursts, using new statistical techniques developed in collaboration with Prof. B. Efron of the Department of Statistics. Another area of research is the use of gravitational lensing in measuring mass in the universe.

High-energy astrophysics research involves interpretation of non-thermal astronomical sources where particles are accelerated to very high energies and emit various kinds of radiation. These processes occur on many scales and in all sorts of objects: in the magnetosphere of planets, in the interplanetary space, during solar and stellar flares, in the accretion disks and jets around stellar-size and super-massive black holes, at centers of galaxies, in gamma-ray bursts, in supernovae, and in the intra-cluster medium of clusters of galaxies. Plasma physics processes common in all these sources for acceleration of particles and their radiative signature is the main focus of the research here.

ACADEMIC APPOINTMENTS

- Professor, Physics
- Professor, Applied Physics

ADMINISTRATIVE APPOINTMENTS

- Teaching Assistant, Cornell University, (1961-1961)
- Research Assistant, CRSR, Cornell University, (1962-1967)
- Research Association, CRSR, Cornell University, (1967-1967)

- Research Fellow, California Institute of Technology, (1967-1969)
- Visiting Scientist, IOTA Cambridge, (1969-1969)
- Assistant Professor, Stanford University, (1969-1971)
- Associate Professor, Stanford University, (1972-1979)
- Professor, Stanford University, (1980- present)
- Iranian National Fellowship, National Iranian American Council, (1958-1962)
- Industrial Fellowship, Cornell University, (1963-1964)
- Fellowship, Alfred P. Sloan Foundation, (1972-1974)

HONORS AND AWARDS

- Foreign Member, Armenian National Academy of Science (since 2008)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Consultant, Kitt Peak National Observatory (1971 - 1971)
- Member, Arcetri, Florence (1982 - 1983)
- Member, National Optical Astronomy Observatory (NOAO) (1982 - 1983)
- Member, Nordita, Copenhagen (1982 - 1983)
- Member, Cornell University (1982 - 1983)
- Member, Observatoire de Meudron, France (1989 - 1990)
- Member, Space Telescope Science Institute (1996 - 1996)
- Member, National Optical Astronomy Observatory (NOAO) (1998 - 1998)
- Member, Institute of Advanced Studies, Bochum University (2000 - 2000)
- Member, Eta Kappa Nu, IEEE
- Member, Tau Beta Pi, The Engineering Honor Society
- Member, Royal Astronomical Society
- Member, International Astronomical Union
- Member, American Astronomical Society

PROFESSIONAL EDUCATION

- Ph.D., Cornell University (1967)
- M.S., Cornell University (1963)
- B.E.E., Cornell University (1962)

LINKS

- ADS abstracts: https://ui.adsabs.harvard.edu/search/q=Petrosian%2C%20Vahe&sort=date%20desc%2C%20bibcode%20desc&p_=0
- arXiv astro-ph: http://www.arxiv.org/find/astro-ph/1/au:+OR+petrosian_vahe+petrosian_v/0/1/0/all/0/1

Teaching

COURSES

2025-26

- Introduction to Cosmology and Extragalactic Astrophysics: PHYSICS 161, PHYSICS 261 (Spr)

2024-25

- Introduction to Cosmology and Extragalactic Astrophysics: PHYSICS 161, PHYSICS 261 (Spr)

2023-24

- Introduction to Cosmology and Extragalactic Astrophysics: PHYSICS 161, PHYSICS 261 (Spr)

2022-23

- Introduction to Stellar and Galactic Astrophysics: PHYSICS 160, PHYSICS 260 (Win)

STANFORD ADVISEES

Doctoral Dissertation Advisor (AC)

Lyla Choi, Maya Redden

Doctoral (Program)

Jadyn Anczarski, Saul Balcarcel-Salazar, Danielle Brown, Katie Brown, Selby Dang, Hope Fu, Jhonnatan Gama Vazquez, Zach Gillis, Sanya Gupta, Abby Hartley, Chris Jia, Sadaf Kadir, Kaitlyn Karpovich, Jinwoo Kim, Gregor Krzmann, Shenghua Liu, Mati Mebratu, Mikhail Molodyk, Marta Nowotka, Abby Pan, Emrys Peets, Aidan Reilly, Leo Sajkov, Ben Sherwin, Andreas Tsantilas, Hanyue Wang, Josephine Wong

Publications

PUBLICATIONS

- **Puzzling Variation of Gamma Rays from the Sun over the Solar Cycle Revealed with Fermi-LAT** *ASTROPHYSICAL JOURNAL LETTERS*
Acharyya, A., Adelfio, A., Ajello, M., Baldini, L., Bartolini, C., Bastieri, D., Becerra Gonzalez, J., Bellazzini, R., Berenji, B., Bissaldi, E., Blandford, R. D., Bonino, R., Bottacini, et al
2025; 989 (1)
- **Cosmological Evolution of Fast Radio Bursts and the Star Formation Rate** *ASTROPHYSICAL JOURNAL LETTERS*
Champati, S., Petrosian, V.
2025; 988 (2)
- **Gamma-ray burst redshift estimation using machine learning and the associated web app** *ASTRONOMY & ASTROPHYSICS*
Narendra, A., Dainotti, M. G., Sarkar, M., Lenart, A. L., Bogdan, M., Pollo, A., Zhang, B., Rabeda, A., Petrosian, V., Iwasaki, K.
2025; 698
- **GRB 221009A: The BOAT Burst that Shines in Gamma Rays** *ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES*
Axelsson, M., Ajello, M., Arimoto, M., Baldini, L., Ballet, J., Baring, M. G., Bartolini, C., Bastieri, D., Becerra Gonzalez, J., Bellazzini, R., Berenji, B., Bissaldi, E., Blandford, et al
2025; 277 (1)
- **Gamma-Ray Bursts as Distance Indicators by a Statistical Learning Approach** *ASTROPHYSICAL JOURNAL LETTERS*
Dainotti, M., Narendra, A., Pollo, A., Petrosian, V., Bogdan, M., Iwasaki, K., Prochaska, J., Rinaldi, E., Zhou, D.
2024; 967 (2)
- **Inferring the Redshift of More than 150 GRBs with a Machine-learning Ensemble Model** *ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES*
Dainotti, M., Taira, E., Wang, E., Lehman, E., Narendra, A., Pollo, A., Madejski, G. M., Petrosian, V., Bogdan, M., Dey, A., Bhardwaj, S.
2024; 271 (1)
- **Progenitors of Low-redshift Gamma-Ray Bursts** *ASTROPHYSICAL JOURNAL LETTERS*
Petrosian, V., Dainotti, M. G.
2024; 963 (1)
- **A New Component from the Quiet Sun from Radio to Gamma Rays: Synchrotron Radiation by Galactic Cosmic-Ray Electrons** *ASTROPHYSICAL JOURNAL*
Orlando, E., Petrosian, V., Strong, A.
2023; 943 (2)
- **Transport of Cosmic-Ray Electrons from 1 au to the Sun** *ASTROPHYSICAL JOURNAL*

-
- Petrosian, V., Orlando, E., Strong, A.
2023; 943 (1)
- **Can the Distance-Redshift Relation be Determined from Correlations between Luminosities?** *ASTROPHYSICAL JOURNAL LETTERS*
Petrosian, Singal, J., Mutchnick, S.
2022; 935 (1)
 - **Incremental Fermi Large Area Telescope Fourth Source Catalog** *ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES*
Abdollahi, S., Acero, F., Baldini, L., Ballet, J., Bastieri, D., Bellazzini, R., Berenji, B., Berretta, A., Bissaldi, E., Blandford, R. D., Bloom, E., Bonino, R., Brill, et al
2022; 260 (2)
 - **The X-Ray Luminosity Function Evolution of Quasars and the Correlation between the X-Ray and Ultraviolet Luminosities** *ASTROPHYSICAL JOURNAL*
Singal, J., Mutchnick, S., Petrosian
2022; 932 (2)
 - **Probing Particle Acceleration through Gamma-ray Solar Flare Observations**
Pesce-Rollins, M., Omodei, N., Petrosian, V., Longo, F.
edited by Keilhauer, B.
PROCEEDINGS OF SCIENCE.2022
 - **Cosmological Evolution of Fermi Large Area Telescope Gamma-Ray Blazars Using Novel Nonparametric Methods** *ASTROPHYSICAL JOURNAL*
Zeng, H., Petrosian, V., Yi, T.
2021; 913 (2)
 - **The Relation between Escape and Scattering Times of Energetic Particles in a Turbulent Magnetized Plasma: Application to Solar Flares** *ASTROPHYSICAL JOURNAL LETTERS*
Effenberger, F., Petrosian, V.
2018; 868 (2)
 - **Probing the Puzzle of Behind-the-limb gamma-Ray Flares: Data-driven Simulations of Magnetic Connectivity and CME-driven Shock Evolution** *ASTROPHYSICAL JOURNAL*
Jin, M., Petrosian, V., Liu, W., Nitta, N., Omodei, N., da Costa, F., Effenberger, F., Li, G., Pesce-Rollins, M., Allafort, A., Manchester, W.
2018; 867 (2)
 - **Implications of a Loop-top Origin for Microwave, Hard X-Ray, and Low-energy Gamma-Ray Emission from Behind-the-limb Flares** *ASTROPHYSICAL JOURNAL*
Petrosian, V.
2018; 865 (2)
 - **Hard X-Ray Emission from Partially Occulted Solar Flares: RHESSI Observations in Two Solar Cycles** *ASTROPHYSICAL JOURNAL*
Effenberger, F., Da Costa, F. R., Oka, M., Saint-Hilaire, P., Liu, W., Petrosian, V., Glesener, L., Krucker, S.
2017; 835 (2)
 - **PARTICLE ACCELERATION IN SOLAR FLARES AND ASSOCIATED CME SHOCKS** *ASTROPHYSICAL JOURNAL*
Petrosian, V.
2016; 830 (1)
 - **DATA-DRIVEN RADIATIVE HYDRODYNAMIC MODELING OF THE 2014 MARCH 29 X1.0 SOLAR FLARE** *ASTROPHYSICAL JOURNAL*
Da Costa, F. R., Kleint, L., Petrosian, V., Liu, W., Allred, J. C.
2016; 827 (1)
 - **THE FIRST FERMI LAT SUPERNOVA REMNANT CATALOG** *ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES*
Acero, F., Ackermann, M., Ajello, M., Baldini, L., Ballet, J., Barbiellini, G., Bastieri, D., Bellazzini, R., Bissaldi, E., Blandford, R. D., Bloom, E. D., Bonino, R., Bottacini, et al
2016; 224 (1)
 - **Resolving the Extragalactic gamma-Ray Background above 50 GeV with the Fermi Large Area Telescope** *PHYSICAL REVIEW LETTERS*

- Ackermann, M., Ajello, M., Albert, A., Atwood, W. B., Baldini, L., Ballet, J., Barbiellini, G., Bastieri, D., Bechtol, K., Bellazzini, R., Bissaldi, E., Blandford, R. D., Bloom, et al
2016; 116 (15)
- **Measurement of the high-energy gamma-ray emission from the Moon with the Fermi Large Area Telescope** *PHYSICAL REVIEW D*
Ackermann, M., Ajello, M., Albert, A., Atwood, W. B., Baldini, L., Barbiellini, G., Bastieri, D., Bellazzini, R., Bissaldi, E., Blandford, R. D., Bonino, R., Bottacini, E., Bregeon, et al
2016; 93 (8)
 - **SEARCH FOR GAMMA-RAY EMISSION FROM THE COMA CLUSTER WITH SIX YEARS OF FERMI-LAT DATA** *ASTROPHYSICAL JOURNAL*
Ackermann, M., Ajello, M., Albert, A., Atwood, W. B., Baldini, L., Ballet, J., Barbiellini, G., Bastieri, D., Bechtol, K., Bellazzini, R., Bissaldi, E., Blandford, R. D., Blooms, et al
2016; 819 (2)
 - **2FHL: THE SECOND CATALOG OF HARD FERMI-LAT SOURCES** *ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES*
Ackermann, M., Ajello, M., Atwood, W. B., Baldini, L., Ballet, J., Barbiellini, G., Bastieri, D., Gonzalez, J. B., Bellazzini, R., Bissaldi, E., Blandford, R. D., Bloom, E. D., Bonino, et al
2016; 222 (1)
 - **MULTIWAVELENGTH EVIDENCE FOR QUASI-PERIODIC MODULATION IN THE GAMMA-RAY BLAZAR PG 1553+113** *ASTROPHYSICAL JOURNAL LETTERS*
Ackermann, M., Ajello, M., Albert, A., Atwood, W. B., Baldini, L., Ballet, J., Barbiellini, G., Bastieri, D., Gonzalez, J. B., Bellazzini, R., Bissaldi, E., Blandford, R. D., Bloom, et al
2015; 813 (2)
 - **COMBINED MODELING OF ACCELERATION, TRANSPORT, AND HYDRODYNAMIC RESPONSE IN SOLAR FLARES. II. INCLUSION OF RADIATIVE TRANSFER WITH RADYN** *ASTROPHYSICAL JOURNAL*
Da Costa, F. R., Liu, W., Petrosian, V., Carlsson, M.
2015; 813 (2)
 - **ACCELERATION OF THERMAL PROTONS BY GENERIC PHENOMENOLOGICAL MECHANISMS** *ASTROPHYSICAL JOURNAL*
Petrosian, V., Kang, B.
2015; 813 (1)
 - **SEARCH FOR EXTENDED GAMMA-RAY EMISSION FROM THE VIRGO GALAXY CLUSTER WITH FERMI-LAT** *ASTROPHYSICAL JOURNAL*
Ackermann, M., Ajello, M., Albert, A., Atwood, W. B., Baldini, L., Barbiellini, G., Bastieri, D., Bechtol, K., Bellazzini, R., Bissaldi, E., Bloom, E. D., Bonino, R., Bottacini, et al
2015; 812 (2)
 - **Luminosity-time and luminosity-luminosity correlations for GRB prompt and afterglow plateau emissions** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*
Dainotti, M., Petrosian, V., Willingale, R., O'Brien, P., Ostrowski, M., Nagataki, S.
2015; 451 (4): 3898-3908
 - **COSMOLOGICAL EVOLUTION OF LONG GAMMA-RAY BURSTS AND THE STAR FORMATION RATE** *ASTROPHYSICAL JOURNAL*
Petrosian, V., Kitanidis, E., Kocevski, D.
2015; 806 (1)
 - **FIRST DETECTION OF > 100 MeV GAMMA-RAYS ASSOCIATED WITH A BEHIND-THE-LIMB SOLAR FLARE** *ASTROPHYSICAL JOURNAL LETTERS*
Pesce-Rollins, M., Omodei, N., Petrosian, V., Liu, W., da Costa, F. R., Allafort, A., Chen, Q.
2015; 805 (2)
 - **SOLAR FLARE CHROMOSPHERIC LINE EMISSION: COMPARISON BETWEEN IBIS HIGH-RESOLUTION OBSERVATIONS AND RADIATIVE HYDRODYNAMIC SIMULATIONS** *ASTROPHYSICAL JOURNAL*
Da Costa, F. R., Kleint, L., Petrosian, V., Dalda, A. S., Liu, W.
2015; 804 (1)
 - **THE SPECTRUM AND MORPHOLOGY OF THE FERMI BUBBLES** *ASTROPHYSICAL JOURNAL*
Ackermann, M., Albert, A., Atwood, W. B., Baldini, L., Ballet, J., Barbiellini, G., Bastieri, D., Bellazzini, R., Bissaldi, E., Blandford, R. D., Bloom, E. D., Bottacini, E., Brandt, et al

2014; 793 (1)

- **IMPULSIVE AND LONG DURATION HIGH-ENERGY GAMMA-RAY EMISSION FROM THE VERY BRIGHT 2012 MARCH 7 SOLAR FLARES** *ASTROPHYSICAL JOURNAL*
Ajello, M., Albert, A., Allafort, A., Baldini, L., Barbiellini, G., Bastieri, D., Bellazzini, R., Bissaldi, E., Bonamente, E., Brandt, T. J., Bregeon, J., Brigida, M., Bruel, et al
2014; 789 (1)
- **INJECTION OF κ -LIKE SUPRATHERMAL PARTICLES INTO DIFFUSIVE SHOCK ACCELERATION** *ASTROPHYSICAL JOURNAL*
Kang, H., Petrosian, V., Ryu, D., Jones, T. W.
2014; 788 (2)
- **HIGH-ENERGY GAMMA-RAY EMISSION FROM SOLAR FLARES: SUMMARY OF FERMI LARGE AREA TELESCOPE DETECTIONS AND ANALYSIS OF TWO M-CLASS FLARES** *ASTROPHYSICAL JOURNAL*
Ackermann, M., Ajello, M., Albert, A., Allafort, A., Baldini, L., Barbiellini, G., Bastieri, D., Bechtol, K., Bellazzini, R., Bissaldi, E., Bonamente, E., Bottacini, E., Bouvier, et al
2014; 787 (1)
- **Determination of acceleration mechanism characteristics directly and nonparametrically from observations: Application to supernova remnants** *PHYSICAL REVIEW D*
Petrosian, V., Chen, Q.
2014; 89 (10)
- **GAMMA-RAY LUMINOSITY AND PHOTON INDEX EVOLUTION OF FSRQ BLAZARS AND CONTRIBUTION TO THE GAMMA-RAY BACKGROUND** *ASTROPHYSICAL JOURNAL*
Singal, J., Ko, A., Petrosian, V.
2014; 786 (2)
- **Fermi-LAT Observations of the Gamma-Ray Burst GRB 130427A** *SCIENCE*
Ackermann, M., Ajello, M., Asano, K., Atwood, W. B., Axelsson, M., Baldini, L., Ballet, J., Barbiellini, G., Baring, M. G., Bastieri, D., Bechtol, K., Bellazzini, R., Bissaldi, et al
2014; 343 (6166): 42-47
- **DETERMINATION OF STOCHASTIC ACCELERATION MODEL CHARACTERISTICS IN SOLAR FLARES** *ASTROPHYSICAL JOURNAL*
Chen, Q., Petrosian, V.
2013; 777 (1)
- **DETERMINATION OF THE INTRINSIC LUMINOSITY TIME CORRELATION IN THE X-RAY AFTERGLOWS OF GAMMA-RAY BURSTS** *ASTROPHYSICAL JOURNAL*
Dainotti, M. G., Petrosian, V., Singal, J., Ostrowski, M.
2013; 774 (2)
- **PLASMOID EJECTIONS AND LOOP CONTRACTIONS IN AN ERUPTIVE M7.7 SOLAR FLARE: EVIDENCE OF PARTICLE ACCELERATION AND HEATING IN MAGNETIC RECONNECTION OUTFLOWS** *ASTROPHYSICAL JOURNAL*
Liu, W., Chen, Q., Petrosian, V.
2013; 767 (2)
- **ON THE LACK OF TIME DILATION SIGNATURES IN GAMMA-RAY BURST LIGHT CURVES** *ASTROPHYSICAL JOURNAL*
Kocevski, D., Petrosian, V.
2013; 765 (2)
- **THE RADIO AND OPTICAL LUMINOSITY EVOLUTION OF QUASARS. II. THE SDSS SAMPLE** *ASTROPHYSICAL JOURNAL*
Singal, J., Petrosian, V., Stawarz, L., Lawrence, A.
2013; 764 (1)
- **Observational Aspects of Particle Acceleration in Large Solar Flares** *SPACE SCIENCE REVIEWS*
Raymond, J. C., Krucker, S., Lin, R. P., Petrosian, V.
2012; 173 (1-4): 197-221
- **Stochastic Acceleration by Turbulence** *SPACE SCIENCE REVIEWS*
Petrosian, V.

2012; 173 (1-4): 535-556

- **GeV OBSERVATIONS OF STAR-FORMING GALAXIES WITH THE FERMI LARGE AREA TELESCOPE** *ASTROPHYSICAL JOURNAL*
Ackermann, M., Ajello, M., Allafort, A., Baldini, L., Ballet, J., Bastieri, D., Bechtol, K., Bellazzini, R., Berenji, B., Bloom, E. D., Bonamente, E., Borgland, A. W., Bouvier, et al
2012; 755 (2)
- **FLUX AND PHOTON SPECTRAL INDEX DISTRIBUTIONS OF FERMI-LAT BLAZARS AND CONTRIBUTION TO THE EXTRAGALACTIC GAMMA-RAY BACKGROUND** *ASTROPHYSICAL JOURNAL*
Singal, J., Petrosian, V., Ajello, M.
2012; 753 (1)
- **IMPULSIVE PHASE CORONAL HARD X-RAY SOURCES IN AN X3.9 CLASS SOLAR FLARE** *ASTROPHYSICAL JOURNAL*
Chen, Q., Petrosian, V.
2012; 748 (1)
- **FERMI DETECTION OF gamma-RAY EMISSION FROM THE M2 SOFT X-RAY FLARE ON 2010 JUNE 12f** *ASTROPHYSICAL JOURNAL*
Ackermann, M., Ajello, M., Allafort, A., Atwood, W. B., Baldini, L., Barbiellini, G., Bastieri, D., Bechtol, K., Bellazzini, R., Bhat, P. N., Blandford, R. D., Bonamente, E., Borgland, et al
2012; 745 (2)
- **ON THE RADIO AND OPTICAL LUMINOSITY EVOLUTION OF QUASARS** *ASTROPHYSICAL JOURNAL*
Singal, J., Petrosian, V., Lawrence, A., Stawarz, L.
2011; 743 (2)
- **Recent Advances in Understanding Particle Acceleration Processes in Solar Flares** *SPACE SCIENCE REVIEWS*
Zharkova, V. V., Arzner, K., Benz, A. O., Browning, P., Dauphin, C., Emslie, A. G., Fletcher, L., Kontar, E. P., Mann, G., Onofri, M., Petrosian, V., Turkmani, R., Vilmer, et al
2011; 159 (1-4): 357-420
- **DETECTION OF A SPECTRAL BREAK IN THE EXTRA HARD COMPONENT OF GRB 090926A** *ASTROPHYSICAL JOURNAL*
Ackermann, M., Ajello, M., Asano, K., Axelsson, M., Baldini, L., Ballet, J., Barbiellini, G., Baring, M. G., Bastieri, D., Bechtol, K., Bellazzini, R., Berenji, B., Bhat, et al
2011; 729 (2)
- **Sources of the radio background considered** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*
Singal, J., Stawarz, L., Lawrence, A., Petrosian, V.
2010; 409 (3): 1172-1182
- **Fermi LAT observations of cosmic-ray electrons from 7 GeV to 1 TeV** *PHYSICAL REVIEW D*
Ackermann, M., Ajello, M., Atwood, W. B., Baldini, L., Ballet, J., Barbiellini, G., Bastieri, D., Baughman, B. M., Bechtol, K., Bellardi, F., Bellazzini, R., Belli, F., Berenji, et al
2010; 82 (9)
- **FERMI OBSERVATIONS OF HIGH-ENERGY GAMMA-RAY EMISSION FROM GRB 090217A** *ASTROPHYSICAL JOURNAL LETTERS*
Ackermann, M., Ajello, M., Baldini, L., Ballet, J., Barbiellini, G., Baring, M. G., Bastieri, D., Bechtol, K., Bellazzini, R., Berenji, B., Bhat, P. N., Bissaldi, E., Blandford, et al
2010; 717 (2): L127-L132
- **GeV GAMMA-RAY FLUX UPPER LIMITS FROM CLUSTERS OF GALAXIES** *ASTROPHYSICAL JOURNAL LETTERS*
Ackermann, M., Ajello, M., Allafort, A., Baldini, L., Ballet, J., Barbiellini, G., Bastieri, D., Bechtol, K., Bellazzini, R., Blandford, R. D., Blasi, P., Bloom, E. D., Bonamente, et al
2010; 717 (1): L71-L78
- **THE COSMIC RADIO BACKGROUND AND JET CONNECTION** *International Meeting on High-Energy Phenomena in Relativistic Outflows II*
Singal, J., Stawarz, L., Petrosian, V., Lawrence, A.
WORLD SCIENTIFIC PUBL CO PTE LTD.2010: 965-69
- **DERIVATION OF STOCHASTIC ACCELERATION MODEL CHARACTERISTICS FOR SOLAR FLARES FROM RHESSI HARD X-RAY OBSERVATIONS** *ASTROPHYSICAL JOURNAL LETTERS*
Petrosian, V., Chen, Q.

2010; 712 (2): L131-L134

● **ON THE ENERGY SPECTRA OF GeV/TeV COSMIC RAY LEPTONS** *ASTROPHYSICAL JOURNAL*

Stawarz, L., Petrosian, V., Blandford, R. D.

2010; 710 (1): 236-247

● **IDENTIFICATION AND PROPERTIES OF THE PHOTOSPHERIC EMISSION IN GRB090902B** *ASTROPHYSICAL JOURNAL LETTERS*

Ryde, F., Axelsson, M., Zhang, B. B., McGlynn, S., Pe'er, A., Lundman, C., Larsson, S., Battelino, M., Zhang, B., Bissaldi, E., Bregeon, J., Briggs, M. S., Chiang, et al

2010; 709 (2): L172-L177

● **Direct Determination of Accelerated Mechanism Characteristics in Solar Flares from RHESSI Observations** *AAS*

Petrosian, V., Chen, Q. R.

2010; 21640403

● **FERMI OBSERVATIONS OF GRB 090902B: A DISTINCT SPECTRAL COMPONENT IN THE PROMPT AND DELAYED EMISSION** *ASTROPHYSICAL JOURNAL LETTERS*

Abdo, A. A., Ackermann, M., Ajello, M., Asano, K., Atwood, W. B., Axelsson, M., Baldini, L., Ballet, J., Barbiellini, G., Baring, M. G., Bastieri, D., Bechtol, K., Bellazzini, et al

2009; 706 (1): L138-L144

● **A limit on the variation of the speed of light arising from quantum gravity effects** *NATURE*

Abdo, A. A., Ackermann, M., Ajello, M., Asano, K., Atwood, W. B., Axelsson, M., Baldini, L., Ballet, J., Barbiellini, G., Baring, M. G., Bastieri, D., Bechtol, K., Bellazzini, et al

2009; 462 (7271): 331-334

● **COMBINED MODELING OF ACCELERATION, TRANSPORT, AND HYDRODYNAMIC RESPONSE IN SOLAR FLARES. I. THE NUMERICAL MODEL** *ASTROPHYSICAL JOURNAL*

Liu, W., Petrosian, V., Mariska, J. T.

2009; 702 (2): 1553-1566

● **RELATIVE DISTRIBUTIONS OF FLUENCES OF He-3 AND He-4 IN SOLAR ENERGETIC PARTICLES** *ASTROPHYSICAL JOURNAL*

Petrosian, V., Jiang, Y. W., Liu, S., Ho, G. C., Mason, G. M.

2009; 701 (1): 1-7

● **CASCADE AND DAMPING OF ALFVEN-CYCLOTRON FLUCTUATIONS: APPLICATION TO SOLAR WIND TURBULENCE** *ASTROPHYSICAL JOURNAL*

Jiang, Y. W., Liu, S., Petrosian, V.

2009; 698 (1): 163-183

● **Fermi Observations of High-Energy Gamma-Ray Emission from GRB 080916C** *SCIENCE*

Abdo, A. A., Ackermann, M., Arimoto, M., Asano, K., Atwood, W. B., Axelsson, M., Baldini, L., Ballet, J., Band, D. L., Barbiellini, G., Baring, M. G., Bastieri, D., Battelino, et al

2009; 323 (5922): 1688-1693

● **CONJUGATE HARD X-RAY FOOTPOINTS IN THE 2003 OCTOBER 29 X10 FLARE: UNSHEARING MOTIONS, CORRELATIONS, AND ASYMMETRIES** *ASTROPHYSICAL JOURNAL*

Liu, W., Petrosian, V., Dennis, B. R., Holman, G. D.

2009; 693 (1): 847-867

● **Particle acceleration by fast modes in solar flares** *ASTROPHYSICAL JOURNAL*

Yan, H., Lazarian, A., Petrosian, V.

2008; 684 (2): 1461-1468

● **Heating and acceleration of intracluster medium electrons by turbulence** *ASTROPHYSICAL JOURNAL*

Petrosian, V., East, W. E.

2008; 682 (1): 175-185

● **On the momentum diffusion of radiating ultrarelativistic electrons in a turbulent magnetic field** *ASTROPHYSICAL JOURNAL*

Stawarz, L., Petrosian, V.

2008; 681 (2): 1725-1744

- **Double coronal hard and soft X-ray source observed by RHESSI: Evidence for magnetic reconnection and particle acceleration in solar flares** *ASTROPHYSICAL JOURNAL*
Liu, W., Petrosian, V., Dennis, B. R., Jiang, Y. W.
2008; 676 (1): 704-716
- **Particle acceleration mechanisms** *SPACE SCIENCE REVIEWS*
Petrosian, V., Bykov, A. M.
2008; 134 (1-4): 207-227
- **Equilibration processes in the warm-hot intergalactic medium** *SPACE SCIENCE REVIEWS*
Bykov, A. M., Paerels, F. B., Petrosian, V.
2008; 134 (1-4): 141-153
- **Nonthermal radiation mechanisms** *SPACE SCIENCE REVIEWS*
Petrosian, V., Bykov, A., Rephaeli, Y.
2008; 134 (1-4): 191-206
- **Correlation between flux and spectral index during flares in Sagittarius A** *ASTROPHYSICAL JOURNAL*
Bittner, J. M., Liu, S., Fryer, C. L., Petrosian, V.
2007; 661 (2): 863-874
- **Analysis and interpretation of hard X-ray emission from the bullet cluster (1ES 0657-558), the most distant cluster of galaxies observed by RXTE** *ASTROPHYSICAL JOURNAL*
Petrosian, V., Madejski, G., Luli, K.
2006; 652 (2): 948-954
- **Rhessi observation of chromospheric evaporation** *ASTROPHYSICAL JOURNAL*
Liu, W., , Liu, S., Jiang, Y. W., Petrosian, V.
2006; 649 (2): 1124-1139
- **A testable stochastic acceleration model for flares in Sagittarius A** *ASTROPHYSICAL JOURNAL*
Liu, S., Petrosian, V., Melia, F., Fryer, C. L.
2006; 648 (2): 1020-1025
- **Stochastic acceleration in the galactic center HESS source** *ASTROPHYSICAL JOURNAL*
Liu, S., Melia, F., Petrosian, V., Fatuzzo, M.
2006; 647 (2): 1099-1105
- **Damping of magnetohydrodynamic turbulence in solar flares** *ASTROPHYSICAL JOURNAL*
Petrosian, V., Yan, H., Lazarian, A.
2006; 644 (1): 603-612
- **Evolution of the loop-top source of solar flares: Heating and cooling processes** *ASTROPHYSICAL JOURNAL*
Jiang, Y. W., Liu, S. M., Liu, W., Petrosian, V.
2006; 638 (2): 1140-1153
- **Stochastic electron acceleration during the near-infrared and X-ray flares in Sagittarius A*** *ASTROPHYSICAL JOURNAL*
Liu, S. M., Melia, F., Petrosian, V.
2006; 636 (2): 798-803
- **Stochastic acceleration of He-3 and He-4 in solar flares by parallel- propagating plasma waves: General results** *ASTROPHYSICAL JOURNAL*
Liu, S. M., Petrosian, V., Mason, G. M.
2006; 636 (1): 462-474
- **Total galaxy magnitudes and effective radii from Petrosian magnitudes and radii** *ASTRONOMICAL JOURNAL*
Graham, A. W., Driver, S. P., Petrosian, V., Conselice, C. J., Bershady, M. A., Crawford, S. M., Goto, T.
2005; 130 (4): 1535-1544
- **Non-thermal activity and particle acceleration in clusters of galaxies** *25th General Assembly of the International-Astronomical-Union*

- Petrosian, V.
ASTRONOMICAL SOC PACIFIC.2005: 317–321
- **Stochastic acceleration of He-3 and He-4 by parallel propagating plasma waves** *ASTROPHYSICAL JOURNAL*
Liu, S. M., Petrosian, V., Mason, G. M.
2004; 613 (1): L81-L84
 - **Electron acceleration around the supermassive black hole at the galactic center** *ASTROPHYSICAL JOURNAL*
Liu, S., Petrosian, V., Melia, F.
2004; 611 (2): L101-L104
 - **RHESSI OBSERVATIONS OF A SIMPLE LARGE X-RAY FLARE ON 2003 NOVEMBER 3** *ASTROPHYSICAL JOURNAL*
Liu, W., Jiang, Y. W., Liu, S., Petrosian, V.
2004; 611 (1)
 - **Stochastic acceleration of electrons and protons. I. Acceleration by parallel-propagating waves** *ASTROPHYSICAL JOURNAL*
Petrosian, V., Liu, S. M.
2004; 610 (1): 550-571
 - **GRB 021004: A massive progenitor star surrounded by shells** *ASTROPHYSICAL JOURNAL*
Schaefer, B. E., Gerardy, C. L., Hoflich, P., Panaitescu, A., Quimby, R., Mader, J., Hill, G. J., Kumar, P., WHEELER, J. C., Eracleous, M., Sigurdsson, S., Meszaros, P., Zhang, et al
2003; 588 (1): 387-399
 - **Nonthermal radiation and acceleration of electrons in clusters of galaxies** *Conference on Matter and Energy in Clusters of Galaxies*
Petrosian, V.
ASTRONOMICAL SOC PACIFIC.2003: 337–346
 - **Gamma-ray burst spectra and light curves as signatures of a relativistically expanding plasma** *ASTROPHYSICAL JOURNAL*
Ryde, F., Petrosian, V.
2002; 578 (1): 290-303
 - **Loop top hard X-ray emission in solar flares: Images and statistics** *ASTROPHYSICAL JOURNAL*
Petrosian, V., Donaghy, T. Q., McTiernan, J. M.
2002; 569 (1): 459-473
 - **Interpreting the behavior of time-resolved gamma-ray burst spectra** *ASTROPHYSICAL JOURNAL*
Lloyd-Ronning, N. M., Petrosian, V.
2002; 565 (1): 182-194
 - **Looptop and footpoint impulsive hard X-rays and stochastic electron acceleration in flares** *Yohkoh 10th Anniversary Meeting on Multi-Wavelength Observations of Coronal Structure and Dynamics*
Petrosian, V.
PERGAMON-ELSEVIER SCIENCE LTD.2002: 361–366
 - **New statistical methods for analysis of large surveys: Distributions and correlations** *IAU Colloquium on AGN Surveys*
Petrosian, V.
ASTRONOMICAL SOC PACIFIC.2002: 389–397
 - **On the nonthermal emission and acceleration of electrons in coma and other clusters of galaxies** *ASTROPHYSICAL JOURNAL*
Petrosian, V.
2001; 557 (2): 560-572
 - **Synchrotron radiation as the source of gamma-ray burst spectra** *ASTROPHYSICAL JOURNAL*
Lloyd, N. M., Petrosian, V.
2000; 543 (2): 722-732
 - **On the intrinsic and cosmological signatures in gamma-ray burst time profiles: Time dilation** *ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES*
Lee, A., Bloom, E. D., Petrosian, V.
2000; 131 (1): 21-38

- **Properties of gamma-ray burst time profiles using pulse decomposition analysis** *ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES*
Lee, A., Bloom, E. D., Petrosian, V.
2000; 131 (1): 1-19
- **Cosmological versus intrinsic: The correlation between intensity and the peak of the $\nu F(\nu)$ spectrum of gamma-ray bursts** *ASTROPHYSICAL JOURNAL*
Lloyd, N. M., Petrosian, V., Mallozzi, R. S.
2000; 534 (1): 227-238
- **Synchrotron emission as the source of GRB spectra, Part II: Observations** *5th Huntsville Symposium on Gamma-Ray Burst*
Lloyd, N. M., Petrosian, V., Preece, R. D.
AMER INST PHYSICS.2000: 155–159
- **Synchrotron radiation as the source of GRB spectra, part I: Theory** *5th Huntsville Symposium on Gamma-Ray Burst*
Lloyd, N. M., Petrosian, V.
AMER INST PHYSICS.2000: 465–469
- **Cosmological signatures in intensity and break energy correlations** *5th Huntsville Symposium on Gamma-Ray Burst*
Lloyd, N. M., Petrosian, V., Mallozzi, R. S.
AMER INST PHYSICS.2000: 145–149
- **Spatial and spectral structure of hard X-rays and electron acceleration** *Conference on High Energy Solar Physics - Anticipating HESSI*
Petrosian, V., Donaghy, T. Q.
ASTRONOMICAL SOC PACIFIC.2000: 215–220
- **On the spatial distribution of hard X-rays from solar flare loops** *ASTROPHYSICAL JOURNAL*
Petrosian, V., Donaghy, T. Q.
1999; 527 (2): 945-957
- **Nonparametric methods for doubly truncated data** *JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION*
Efron, B., Petrosian, V.
1999; 94 (447): 824-834
- **The evolution and luminosity function of quasars from complete optical surveys** *ASTROPHYSICAL JOURNAL*
Maloney, A., Petrosian, V.
1999; 518 (1): 32-43
- **Stochastic acceleration of electrons by plasma waves. III. Waves propagating perpendicular to the magnetic field** *ASTROPHYSICAL JOURNAL*
Pryadko, J. M., Petrosian, V.
1999; 515 (2): 873-881
- **Distribution of spectral characteristics and the cosmological evolution of gamma-ray bursts** *ASTROPHYSICAL JOURNAL*
Lloyd, N. M., Petrosian, V.
1999; 511 (2): 550-561
- **The evolution and luminosity function of quasars** *194th Symposium of the International-Astronomical-Union*
Petrosian, V.
ASTRONOMICAL SOC PACIFIC.1999: 105–12
- **Cosmological signatures in temporal and spectral characteristics of gamma-ray bursts** *Conference on Gamma-Ray Bursts - The First Three Minutes*
Petrosian, V., Lloyd, N., Lee, A.
ASTRONOMICAL SOC PACIFIC.1999: 235–252
- **New and old tests of cosmological models and the evolution of galaxies** *ASTROPHYSICAL JOURNAL*
Petrosian, V.
1998; 507 (1): 1-15
- **Stochastic acceleration of low-energy electrons in plasmas with finite temperature** *ASTROPHYSICAL JOURNAL*

- Pryadko, J. M., Petrosian, V.
1998; 495 (1): 377-384
- **Distribution of fluences versus peak fluxes and the cosmological density evolution of the rate of GRBs** *4th Huntsville Gamma-Ray Burst Symposium*
Petrosian, V., Lloyd, N. M.
AMER INST PHYSICS.1998: 35–39
 - **The extent of the spectral bias in BATSE: The true distribution of the nu F-nu peak energy** *4th Huntsville Gamma-Ray Burst Symposium*
Lloyd, N. M., Petrosian, V.
AMER INST PHYSICS.1998: 67–71
 - **Stochastic acceleration and photon emission in electron-dominated solar flares** *ASTROPHYSICAL JOURNAL*
Park, B. T., Petrosian, V., Schwartz, R. A.
1997; 489 (1): 358-366
 - **Stochastic acceleration of low-energy electrons in cold plasmas** *ASTROPHYSICAL JOURNAL*
Pryadko, J. M., Petrosian, V.
1997; 482 (2): 774-781
 - **Time dilation of BATSE gamma-ray bursts** *ASTROPHYSICAL JOURNAL*
Lee, T. T., Petrosian, V.
1997; 474 (1): 37-46
 - **Distributions of peak flux and duration for gamma-ray bursts** *ASTROPHYSICAL JOURNAL*
Lee, T. T., Petrosian, V.
1996; 470 (1): 479-492
 - **The fluence distribution of gamma-ray bursts** *ASTROPHYSICAL JOURNAL*
Petrosian, V., Lee, T. T.
1996; 467 (1): L29-L32
 - **Fokker-Planck equations of stochastic acceleration: A study of numerical methods** *ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES*
Park, B. T., Petrosian, V.
1996; 103 (1): 255-267
 - **Gravitational lens models of arcs in Abell 2218** *ASTROPHYSICAL JOURNAL*
Saraniti, D. W., Petrosian, V., Lynds, R.
1996; 458 (1): 57-?
 - **Threshold effects on gamma-ray burst distributions** *3rd Huntsville Symposium on Gamma-Ray Bursts*
Lee, T. T., Petrosian, V.
AIP PRESS.1996: 462–66
 - **On the distributions of flux and duration of gamma-ray bursts** *Workshop on High Velocity Neutron Stars and Gamma-Ray Bursts*
Petrosian, V., Lee, T. T.
AIP PRESS.1996: 170–74
 - **Flux-duration correlations and cosmological time dilation** *3rd Huntsville Symposium on Gamma-Ray Bursts*
Petrosian, V., Lee, T. T.
AIP PRESS.1996: 82–86
 - **Luminosity function and cosmological evolution of gamma-ray bursts** *3rd Huntsville Symposium on Gamma-Ray Bursts*
AZZAM, W. J., Petrosian, V.
AIP PRESS.1996: 306–10
 - **Acceleration and heating by turbulence in flares** *High Energy Solar Physics Workshop*
Petrosian, V.
AIP PRESS.1996: 445–49

- **THE EVOLUTION OF GAMMA-RAY LOUD ACTIVE GALACTIC NUCLEI** *ASTROPHYSICAL JOURNAL*
Chiang, J., Fichtel, C. E., VONMONTIGNY, C., Nolan, P. L., Petrosian, V.
1995; 452 (1): 156-163
- **TESTING ISOTROPY VERSUS CLUSTERING OF GAMMA-RAY BURSTS** *ASTROPHYSICAL JOURNAL*
Efron, B., Petrosian, V.
1995; 449 (1): 216-223
- **THE NEUPERT EFFECT AND THE CHROMOSPHERIC EVAPORATION MODEL FOR SOLAR-FLARES** *ASTROPHYSICAL JOURNAL*
Lee, T. T., Petrosian, V., McTiernan, J. M.
1995; 448 (2): 915-924
- **FOKKER-PLANCK EQUATIONS OF STOCHASTIC ACCELERATION - GREENS-FUNCTIONS AND BOUNDARY-CONDITIONS** *ASTROPHYSICAL JOURNAL*
Park, B. T., Petrosian, V.
1995; 446 (2): 699-716
- **ON THE CORRELATION OF ANGULAR POSITION WITH TIME OF OCCURRENCE OF GAMMA-RAY BURSTS** *ASTROPHYSICAL JOURNAL*
Petrosian, V., Efron, B.
1995; 441 (1): L37-L38
- **GAMMA-RAY EMISSION AND ELECTRON ACCELERATION IN SOLAR-FLARES** *ASTROPHYSICAL JOURNAL*
Petrosian, V., McTiernan, J. M., Marschhauser, H.
1994; 434 (2): 747-755
- **SURVIVAL ANALYSIS OF THE GAMMA-RAY BURST DATA** *JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION*
Efron, B., Petrosian, V.
1994; 89 (426): 452-462
- **THE DYNAMICS OF CHARGED-PARTICLES IN TURBULENT ASTROPHYSICAL PLASMAS** *ASTROPHYSICAL JOURNAL*
DUNG, R., Petrosian, V.
1994; 421 (2): 550-560
- **DO GAMMA-RAY BURSTS ORIGINATE FROM AN EXTENDED GALACTIC HALO OF HIGH-VELOCITY NEUTRON-STARS** *International-Astronomical-Union Colloquium 142*
Hartmann, D. H., Brown, L. E., The, L. S., Linder, E. V., Petrosian, V., Blumenthal, G. R., Hurley, K. C.
UNIV CHICAGO PRESS. 1994: 893-97
- **ACCELERATION OF ELECTRONS IN SOLAR-FLARES** *Workshop on High-Energy Solar Phenomena - A New Era of Spacecraft Measurements*
Petrosian, V.
AIP PRESS. 1994: 162-70
- **THE SLOPE OF THE LOGN-LOGS DISTRIBUTION FOR BATSE GAMMA-RAY BURSTS** *2nd Huntsville Gamma-Ray Workshop*
Petrosian, V., AZZAM, W. J., Meegan, C. A.
AIP PRESS. 1994: 84-87
- **DISTRIBUTION OF PEAK COUNTS AND DURATION OF GAMMA-RAY BURSTS** *2nd Huntsville Gamma-Ray Workshop*
Petrosian, V., Lee, T. T., AZZAM, W. J.
AIP PRESS. 1994: 93-97
- **SUBMILLIMETER AND FAR-INFRARED EMISSION FROM SOLAR-FLARES** *154th Symposium of the International-Astronomical-Union - 1st International Meeting devoted to Infrared Physics*
Petrosian, V.
KLUWER ACADEMIC PUBL. 1994: 103-12
- **COMPARING AND COMBINING THE GAMMA-RAY BURSTS FROM SMM, SIGNE AND BATSE** *2nd Huntsville Gamma-Ray Workshop*
Petrosian, V., AZZAM, W. J., Hurley, K., SHARE, G.
AIP PRESS. 1994: 88-92
- **SMOOTHED NONPARAMETRIC-ESTIMATION OF THE LUMINOSITY FUNCTION FOR FLUX-LIMITED SAMPLES** *ASTROPHYSICAL JOURNAL*

-
- CADITZ, D., Petrosian, V.
1993; 416 (2): 450-457
- **STATISTICS OF ARCS IN CLUSTERS OF GALAXIES** *ASTROPHYSICAL JOURNAL*
Bergmann, A. G., Petrosian, V.
1993; 413 (1): 18-38
 - **THE DISTRIBUTION OF FLARE PARAMETERS AND IMPLICATIONS FOR CORONAL HEATING** *ASTROPHYSICAL JOURNAL*
Lee, T. T., Petrosian, V., McTiernan, J. M.
1993; 412 (1): 401-409
 - **INTERPRETATION OF GAMMA-RAY BURST SOURCE COUNT STATISTICS** *ASTROPHYSICAL JOURNAL*
Petrosian, V.
1993; 402 (2): L33-L36
 - **A SIMPLE TEST OF INDEPENDENCE FOR TRUNCATED DATA WITH APPLICATIONS TO REDSHIFT SURVEYS** *ASTROPHYSICAL JOURNAL*
Efron, B., Petrosian, V.
1992; 399 (2): 345-352
 - **STOCHASTIC ACCELERATION OF ELECTRONS .1. EFFECTS OF COLLISIONS IN SOLAR-FLARES** *ASTROPHYSICAL JOURNAL*
Hamilton, R. J., Petrosian, V.
1992; 398 (1): 350-358
 - **LUMINOSITY FUNCTION OF FLUX-LIMITED SAMPLES** *CROSS-DISCIPLINARY CONF ON STATISTICAL CHALLENGES IN MODERN ASTRONOMY*
Petrosian, V.
SPRINGER-VERLAG.1992: 173-194
 - **CENTER-TO-LIMB VARIATIONS OF CHARACTERISTICS OF SOLAR-FLARE HARD X-RAY AND GAMMA-RAY EMISSION** *ASTROPHYSICAL JOURNAL*
McTiernan, J. M., Petrosian, V.
1991; 379 (1): 381-391
 - **EVOLUTION OF THE LUMINOSITY FUNCTION OF QUASAR ACCRETION DISKS** *ASTROPHYSICAL JOURNAL*
Caditz, D. M., Petrosian, V., Wandel, A.
1991; 372 (2): L63-L66
 - **EFFECTS OF COULOMB COLLISIONS ON CYCLOTRON MASER AND PLASMA-WAVE GROWTH IN MAGNETIC LOOPS** *ASTROPHYSICAL JOURNAL*
Hamilton, R. J., Petrosian, V.
1990; 365 (2): 778-788
 - **THE HARD X-RAYS AND GAMMA-RAYS FROM SOLAR-FLARES** *ASTROPHYSICAL JOURNAL*
McTiernan, J. M., Petrosian, V.
1990; 359 (2): 541-549
 - **THE BEHAVIOR OF BEAMS OF RELATIVISTIC NONTHERMAL ELECTRONS UNDER THE INFLUENCE OF COLLISIONS AND SYNCHROTRON LOSSES** *ASTROPHYSICAL JOURNAL*
McTiernan, J. M., Petrosian, V.
1990; 359 (2): 524-540
 - **STATISTICAL STUDY OF THE CORRELATION OF HARD X-RAY AND TYPE-III RADIO-BURSTS IN SOLAR-FLARES** *ASTROPHYSICAL JOURNAL*
Hamilton, R. J., Petrosian, V., Benz, A. O.
1990; 358 (2): 644-653
 - **STATISTICAL AND PHYSICAL EVOLUTION OF QUASI-STELLAR OBJECTS** *ASTROPHYSICAL JOURNAL*
CADITZ, D., Petrosian, V.
1990; 357 (2): 326-337

- **NUMERICAL-SOLUTION OF THE TIME-DEPENDENT KINETIC-EQUATION FOR ELECTRONS IN MAGNETIZED PLASMA** *ASTROPHYSICAL JOURNAL*
Hamilton, R. J., Lu, E. T., Petrosian, V.
1990; 354 (2): 726-734
- **THE RELATIVE TIMING OF MICROWAVES AND X-RAYS FROM SOLAR-FLARES** *ASTROPHYSICAL JOURNAL*
Lu, E. T., Petrosian, V.
1990; 354 (2): 735-744
- **GRAVITATIONAL LENS MODELS OF ARCS IN CLUSTERS** *ASTROPHYSICAL JOURNAL*
Bergmann, A. G., Petrosian, V., Lynds, R.
1990; 350 (1): 23-35
- **ACCELERATION, TRANSPORT OF AND RADIATION BY ELECTRONS IN IMPULSIVE PHASE OF FLARES** *142ND SYMP OF THE INTERNATIONAL ASTRONOMICAL UNION : BASIC PLASMA PROCESSES ON THE SUN*
Petrosian, V.
KLUWER ACADEMIC PUBL.1990: 391-402
- **ACCELERATION, TRANSPORT OF AND RADIATION BY ELECTRONS IN IMPULSIVE PHASE OF FLARES** *IAU SYMPOSIA*
Petrosian, V.
1990: 391-402
- **THE RATIO OF MICROWAVES TO X-RAYS IN SOLAR-FLARES - THE CASE FOR THE THICK-TARGET MODEL** *ASTROPHYSICAL JOURNAL*
Lu, E. T., Petrosian, V.
1989; 338 (2): 1122-1130
- **COSMOLOGICAL PARAMETERS AND EVOLUTION OF THE GALAXY LUMINOSITY FUNCTION** *ASTROPHYSICAL JOURNAL*
CADITZ, D., Petrosian, V.
1989; 337 (2): L65-L68
- **QUASAR AND AGN EVOLUTION** *134TH SYMP OF THE INTERNATIONAL ASTRONOMICAL UNION ON ACTIVE GALACTIC NUCLEI*
Petrosian, V., CADITZ, D.
KLUWER ACADEMIC PUBL.1989: 59-61
- **QUASAR AND AGN EVOLUTION** *IAU SYMPOSIA*
Petrosian, V., CADITZ, D.
1989: 59-61
- **LUMINOUS ARCS IN CLUSTERS OF GALAXIES** *ASTROPHYSICAL JOURNAL*
Lynds, R., Petrosian, V.
1989; 336 (1): 1-?
- **ACCRETION-DISK MODELING OF THE UV SPECTRUM OF QUASARS** *ASTROPHYSICAL JOURNAL*
Wandel, A., Petrosian, V.
1988; 329 (1): L11-L16
- **RAPID TEMPORAL EVOLUTION OF RADIATION FROM NONTHERMAL ELECTRONS IN SOLAR-FLARES** *ASTROPHYSICAL JOURNAL*
Lu, E. T., Petrosian, V.
1988; 327 (1): 405-416
- **GIANT LUMINOUS ARCS IN CLUSTERS OF GALAXIES** *IAU SYMPOSIA*
Lynds, R., Petrosian, V.
1988: 467-469
- **GENERATION OF PLASMA-WAVES BY THICK-TARGET ELECTRON-BEAMS, AND THE EXPECTED RADIATION SIGNATURE** *ASTROPHYSICAL JOURNAL*
Hamilton, R. J., Petrosian, V.
1987; 321 (2): 721-734
- **ANALYTIC AND NUMERICAL-CALCULATIONS OF QUANTUM SYNCHROTRON SPECTRA FROM RELATIVISTIC ELECTRON DISTRIBUTIONS** *ASTROPHYSICAL JOURNAL*

-
- Brainerd, J. J., Petrosian, V.
1987; 320 (2): 703-713
- **DIRECTIVITY OF BREMSSTRAHLUNG RADIATION FROM RELATIVISTIC BEAMS AND THE GAMMA-RAYS FROM SOLAR-FLARES** *ASTROPHYSICAL JOURNAL*
Petrosian, V.
1985; 299 (2): 987-993
 - **THE INTERPRETATION OF HARD X-RAY-POLARIZATION MEASUREMENTS IN SOLAR-FLARES** *SOLAR PHYSICS*
Leach, J., Emslie, A. G., Petrosian, V.
1985; 96 (2): 331-337
 - **HIGH-ENERGY THERMAL SYNCHROTRON EMISSION** *ASTROPHYSICAL JOURNAL*
IMAMURA, J. N., Epstein, R. I., Petrosian, V.
1985; 296 (1): 65-68
 - **THE IMPOSSIBILITY OF A BOUNCING UNIVERSE - REPLY** *NATURE*
Petrosian, V.
1983; 302 (5908): 506-507
 - **EMISSION, ABSORPTION, AND POLARIZATION OF GYROSYNCHROTRON RADIATION OF MILDLY RELATIVISTIC-PARTICLES** *PHYSICS OF FLUIDS*
Petrosian, V., McTiernan, J. M.
1983; 26 (10): 3023-3028
 - **THE IMPULSIVE PHASE OF SOLAR-FLARES .2. CHARACTERISTICS OF THE HARD X-RAYS** *ASTROPHYSICAL JOURNAL*
Leach, J., Petrosian, V.
1983; 269 (2): 715-727
 - **CORRELATION OF HARD X-RAY AND TYPE-III BURSTS IN SOLAR-FLARES** *SOLAR PHYSICS*
Petrosian, V., Leach, J.
1983; 87 (1): 165-175
 - **STRUCTURE OF THE IMPULSIVE PHASE OF SOLAR-FLARES FROM MICROWAVE OBSERVATIONS** *ASTROPHYSICAL JOURNAL*
Petrosian, V.
1982; 255 (1): L85-L89
 - **PHASE-TRANSITIONS AND DYNAMICS OF THE UNIVERSE** *NATURE*
Petrosian, V.
1982; 298 (5877): 805-808
 - **SYNCHROTRON EMISSION FROM MILDLY RELATIVISTIC-PARTICLES** *ASTROPHYSICAL JOURNAL*
Petrosian, V.
1981; 251 (2): 727-738
 - **IMPULSIVE PHASE OF SOLAR-FLARES .1. CHARACTERISTICS OF HIGH-ENERGY ELECTRONS** *ASTROPHYSICAL JOURNAL*
Leach, J., Petrosian, V.
1981; 251 (2): 781-791
 - **STUDY OF THE SPECTRUM BEYOND 200 KEV OF 2ND-STAGE SOLAR-FLARE X-RAY-EMISSION** *ASTROPHYSICAL JOURNAL*
Langer, S. H., Petrosian, V., Frost, K. J.
1980; 235 (3): 1047-1054
 - **RADIATIVE-TRANSFER IN DUSTY NEBULAE .3. THE EFFECTS OF DUST ALBEDO** *ASTROPHYSICAL JOURNAL*
Petrosian, V., Dana, R. A.
1980; 241 (3): 1094-1106
 - **IMPULSIVE SOLAR X-RAY BURSTS .3. POLARIZATION, DIRECTIVITY, AND SPECTRUM OF REFLECTED AND TOTAL BREMSSTRAHLUNG RADIATION FROM A BEAM OF ELECTRONS DIRECTED TOWARD PHOTOSPHERE** *ASTROPHYSICAL JOURNAL*
Langer, S. H., Petrosian, V.
1977; 215 (2): 666-676

- **APPROXIMATE SOLUTIONS OF RADIATIVE-TRANSFER IN DUSTY NEBULAE .2. HYDROGEN AND HELIUM** *ASTROPHYSICAL JOURNAL*
Dana, R. A., Petrosian, V.
1976; 208 (2): 354-364
- **SURFACE BRIGHTNESS AND EVOLUTION OF GALAXIES** *ASTROPHYSICAL JOURNAL*
Petrosian, V.
1976; 210 (2): L53-L57
- **SURFACE BRIGHTNESS AND EVOLUTION OF GALAXIES** *ASTROPHYSICAL JOURNAL*
Petrosian, V.
1976; 209 (1): L1-L5
- **PRODUCTION OF HARD X-RAYS IN A PLASMA FOCUS** *PHYSICS OF FLUIDS*
Newman, C. E., Petrosian, V.
1975; 18 (5): 547-551
- **APPROXIMATE SOLUTIONS OF RADIATIVE-TRANSFER IN DUSTY NEBULAE .1. PURE HYDROGEN NEBULAE** *ASTROPHYSICAL JOURNAL*
Petrosian, V., Dana, R. A.
1975; 196 (3): 733-744
- **OPTICAL RADIATION FROM CRAB PULSAR** *ASTROPHYSICAL JOURNAL*
Sturrock, P. A., Petrosian, V., TURK, J. S.
1975; 196 (1): 73-82
- **EFFECTS OF PRIMORDIAL FLUCTUATIONS ON ABUNDANCES OF LIGHT ELEMENTS** *ASTROPHYSICAL JOURNAL*
Epstein, R. I., Petrosian, V.
1975; 197 (2): 281-284
- **IMPULSIVE SOLAR X-RAY BURSTS .2. STATISTICAL CORRELATION OF OBSERVATIONS WITH SOLAR LONGITUDE** *ASTROPHYSICAL JOURNAL*
Petrosian, V.
1975; 197 (1): 235-239
- **ARE QUASARS DUSTY** *ASTROPHYSICAL JOURNAL*
McKee, C. F., Petrosian, V.
1974; 189 (1): 17-21
- **EFFECT OF INELASTIC ELECTRON-ATOM COLLISIONS ON BALMER DECREMENT** *ASTROPHYSICAL JOURNAL*
Adams, W. M., PETROSIA, V.
1974; 192 (1): 199-205
- **HUBBLE RELATION FOR NONSTANDARD CANDLES AND ORIGIN OF REDSHIFT OF QUASARS** *ASTROPHYSICAL JOURNAL*
Petrosian, V.
1974; 188 (3): 443-449
- **LUMINOSITY FUNCTION OF QUASARS AND ITS EVOLUTION - COMPARISON OF OPTICALLY SELECTED QUASARS AND QUASARS FOUND IN RADIO CATALOGS** *ASTROPHYSICAL JOURNAL*
Petrosian, V.
1973; 183 (2): 359-381
- **FLUX-DENSITY-SPECTRAL-INDEX RELATION OF EXTRAGALACTIC RADIO-SOURCES** *ASTROPHYSICAL JOURNAL*
Petrosian, V., Dickey, J.
1973; 186 (2): 403-419
- **INTERPRETATION OF FAR INFRARED-EMISSION FROM INTERSTELLAR GRAINS** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*
CAROFF, L. J., PETROSIA, V., Salpeter, E. E., Wagoner, R. V., Werner, M. W.
1973; 164 (3): 295-302
- **IMPULSIVE SOLAR X-RAY BURSTS - BREMSSTRAHLUNG RADIATION FROM A BEAM OF ELECTRONS IN SOLAR CHROMOSPHERE AND TOTAL ENERGY OF SOLAR-FLARES** *ASTROPHYSICAL JOURNAL*

Petrosian, V.
1973; 186 (1): 291-304

● **SYNCHROTRON SOURCES .1. PULSARS AND COMPACT EXTRAGALACTIC OBJECTS** *ASTROPHYSICAL JOURNAL*

Epstein, R. I., Petrosian, V.
1973; 183 (2): 611-623