

Center for Mathematical and Applied Research

Cosmology Laboratory

Head of laboratory

Publications

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Neural network analysis of S2-star dynamics: extended mass

V.G.Gurzadyan, N. Galikyan, Sh. Khlghatyan, A. A. Kocharyan

European Physical Journal Plus 2024 246

Article

The LARES 2 satellite, general relativity and fundamental physics

Vahe Gurzadyan, Ignazio Ciufolini, Antonio Paolozzi, Erricos C. Pavlis, John C. Ries, Richard Matzner,

Claudio Paris, Emiliano Ortore, Roger Penrose

European Physical Journal C 2023 87

Article

Focus point on tensions in cosmology from early to late universe: the value of the Hubble constant and the question of dark energy

V.G.Gurzadyan, S.Capozziello

European Physical Journal Plus 2023 184

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Cosmic voids and the kinetic analysis. II. Link to Hubble tension

V.G.Gurzadyan, N.N.Fimin, V. M. Chechetkin

Astronomy and Astrophysics 2023 A95

Article

Cosmic voids and the kinetic analysis III. Hubble tension and structure formation in the late Universe

V.G. Gurzadyan, N. N. Fimin, V. M. Chechetkin

Astronomy and Astrophysics 2023 A161

Article

Neural network analysis of S-star dynamics: implications for modified gravity

V. G. Gurzadyan, A. A. Kocharyan, N. Galikyan, Sh. Khlghatyan

European Physical Journal Plus 2023 883

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First results of the LARES 2 space experiment to test the general theory of relativity

Vahe Gurzadyan, Ignazio Ciufolini, Claudio Paris, Erricos C. Pavlis, John Ries, Richard Matzner,

Antonio Paolozzi, Emiliano Ortore, Giuseppe Bianco, Magdalena Kuzmicz-Cieslak, Roger Penrose

European Physical Journal Plus 2023 1054

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On the origin of cosmic web

Gurzadyan V.G., Chechetkin, Fimin

European Physical Journal Plus 2022 132

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The cosmological constant vs adiabatic invariance

V. G. Gurzadyan, A. A. Kocharyan, A. Stepanian, Sh. Khlgatyan

European Physical Journal Plus 2022 458

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Tidal disruption effects near black holes and Lambda-gravity

A. Stepanian, V. Gurzadyan, Sh. Khlgatyan

European Physical Journal Plus 2022 965

Article

Gravitational waves as waveguides

V. G. Gurzadyan, M. Samsonyan, A. A. Kocharyan

European Physical Journal Plus 2022 1133

Article

Cosmic voids and the kinetic analysis

V.G.Gurzadyan, V.M.Chechetkin, N.Fimin

Astronomy and Astrophysics 2022 A149

Article

Hubble tension and absolute constraints on the local Hubble parameter

V.G.Gurzadyan, A.Stepanian

Astronomy and Astrophysics 2021 A145

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Cosmic voids and induced hyperbolicity. III. Tracing redshift dependence

V.G.Gurzadyan, A.Kocharyan, M.Samsonyan, A.Stepanian

European Physical Journal Plus 2021 821

Article

Cosmological constant, information and gedanken experiments with black hole horizons

V.G.Gurzadyan, A.Stepanian

European Physical Journal Plus 2021 361

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Cosmic voids and induced hyperbolicity. II. Sensitivity to void/wall scales

V.G.Gurzadyan, M.Samsonyan, A.Kocharyan, A.Stepanian

European Physical Journal Plus 2021 350

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Focus point on modified gravity theories and cosmology

V.G.Gurzadyan, Capozziello

European Physical Journal Plus 2021 871

Article

Ultrahigh accuracy time synchronization technique operation on the Moon

V.G.Gurzadyan, A.Margarian

European Physical Journal Plus 2021 329

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Hubble tension vs two flows

V.G.Gurzadyan, A.Stepanian

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Black hole shadow to probe modified gravity

V.G.Gurzadyan, A.Stepanian, Sh.Khghatyan

European Physical Journal Plus 2021 127

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Cosmic voids and induced hyperbolicity

V.G.Gurzadyan, M. Samsonyan, A. A. Kocharyan, A. Stepanian

European Physical Journal Plus 2020 946

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Lense-Thirring precession and gravito-gyromagnetic ratio

V.G.Gurzadyan, A. Stepanian, Sh. Khghatyan

European Physical Journal C 2020 1011

Article

On the Lambda-evolution of galaxy clusters

V.G.Gurzadyan, A. A. Kocharyan, A. Stepanian

European Physical Journal C 2020 24

Article

Focus Point on Tests of General Relativity and Alternative Gravity Theories

V. Gurzadyan, I. Ciufolini, S. Capozziello

European Physical Journal Plus 2019 251

Article

An improved test of the general relativistic effect of frame-dragging using the LARES and LAGEOS satellites

V.G.Gurzadyan, Roger Penrose, Claudio Paris, Rolf Koenig, Richard Matzner, John Ries,

Giampiero Sindoni, Erricos C. Pavlis, Antonio Paolozzi, Ignazio Ciufolini

European Physical Journal C 2019 872

Article

Satellite Laser-Ranging as a Probe of Fundamental Physics

Vahe Gurzadyan, Rolf Koenig, John Ries, Giampiero Sindoni, Erricos C. Pavlis, Antonio Paolozzi,

Ignazio Ciufolini, Richard Matzner

Scientific Reports 2019 15881

Article

Machine learning and Kolmogorov analysis to reveal gravitational lenses

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H₀ tension: clue to common nature of dark sector?

V.G.Gurzadyan, A. Stepanian

European Physical Journal C 2019 568

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The cosmological constant derived via galaxy groups and clusters

V.G.Gurzadyan, A. Stepanian

European Physical Journal C 2019 169

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Cosmological constant as a fundamental constant

V.G.Gurzadyan, A. Stepanian

European Physical Journal Plus 2019 98

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On the common nature of dark matter and dark energy: Galaxy groups

V.G.Gurzadyan

European Physical Journal Plus 2019 14

Article

Rotating baryonic dark halos

V.G.Gurzadyan, Ph. Jetzer, G. Ingrosso, N. Tahir, S. Sargsyan, A. Amekhyan, A. Kashin, A. Qadir,

A. A. Nucita, A. V. Gurzadyan, F. De Paolis

Astronomy and Astrophysics 2019 A87
