

Center for Mathematical and Applied Research

Cosmology Laboratory

Head of laboratory

Publications

Article

Cosmic voids and the kinetic analysis V. Hubble tension, the cosmological constant, and aperiodic filaments

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

Astronomy and Astrophysics 2026 A70

Article

Cosmic voids and the kinetic analysis: IV. Hubble tension and the cosmological constant

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Astronomy and Astrophysics 2025 A252

Article

Messier 90 galactic halo rotation in the microwaves

V.G.Gurzadyan, De Paolis F., G.Yegoryan, A.Kashin, Qadir A., Tahir N., Jetzer Ph.

Astronomy and Astrophysics 2025 L2

Article

Kolmogorov analysis of JWST deep survey galaxies

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

Astronomy and Astrophysics 2025 L21

Article

On the Earth's tidal perturbations.II. LARES 2 satellite

V.G.Gurzadyan, H.G.Khachatryan, S.Mirzoyan, A.Paolozzi, I. Ciufolini

European Physical Journal Plus 2025 512

Article

Vishap stelae as cult dedicated prehistoric monuments of Armenian Highlands: data analysis and interpretation

Vahe Gurzadyan, Arsen Bobokhyan

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Article

Probing lambda-gravity with Bose-Einstein condensates

V. Gurzadyan, I. Fuentes, A. Belyaev, H. A. Fernandez-Melendez

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Focus point on tensions in cosmology from early to late universe: part II: new directions in the light of observations from the most modern astronomical facilities

V.G.Gurzadyan, E. Di Valentino, S.Capozziello

European Physical Journal Plus 2025 1011

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

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Article

S2-star dynamics probing the galaxy core cluster

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Smearing of primordial gravitational waves

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

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Article

On the high accuracy to test dragging of inertial frames with the LARES 2 space experiment

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

Deka Darpanjeet, Ortore Emiliano, Kuzmicz-Cieslak Magdalena, Penrose Roger, Paolozzi Antonio,

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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

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

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

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

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

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On the origin of cosmic web

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The cosmological constant vs adiabatic invariance

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

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Tidal disruption effects near black holes and Lambda-gravity

A.Stepanian, V.Gurzadyan, Sh.Khlghatyan

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Gravitational waves as waveguides

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

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Cosmic voids and the kinetic analysis

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Hubble tension and absolute constraints on the local Hubble parameter

V.G.Gurzadyan, A.Stepanian

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Cosmic voids and induced hyperbolicity. III. Tracing redshift dependence

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Cosmological constant, information and gedanken experiments with black hole horizons

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Black hole shadow to probe modified gravity

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Cosmic voids and induced hyperbolicity

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Lense-Thirring precession and gravito-gyromagnetic ratio

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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

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

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Giampiero Sindoni, Erricos C. Pavlis, Antonio Paolozzi, Ignazio Ciufolini
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H₀ tension: clue to common nature of dark sector?

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The cosmological constant derived via galaxy groups and clusters

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Cosmological constant as a fundamental constant

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

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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
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Messier 81's Planck view versus its halo mapping

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