



University of Crete
Department of Physics



FORTH
INSTITUTE OF ASTROPHYSICS

Joint Physics & IA/FORTH Colloquium

Thursday, 07 May 2026 | 17:00 – 18:00, Seminar Room 3rd Floor

Opening a new window onto the Universe with the FOSSIL mission

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ABSTRACT

The Cosmic Microwave Background (CMB) is a pillar of modern cosmology. Since the results of the COBE/FIRAS satellite in the nineties the CMB spectrum is known to be a quasi-perfect blackbody. However, both standard and non-standard physics processes inevitably lead to deviations from blackbody, named spectral distortions. They provide a unique opportunity to reveal novel probes of the early Universe, particle physics, and structure formation.

The presentation will cover an ongoing effort to design and fly the FOSSIL mission, in answer to the European Space Agency M8 call for proposal, a future satellite aimed at achieving an unprecedented leap forward in sensitivity, allowing us to revisit the measurement of the CMB spectrum and to detect these spectral distortions.