



University of Crete
Department of Physics



FORTH
INSTITUTE OF ASTROPHYSICS



Joint Physics & IA/FORTH Colloquium

Thursday, 2 April 2020 | 17:00 – 18:00, Seminar Room, 3rd floor

A new probe of dark energy

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ABSTRACT

*In the currently favored cosmological model, the energy density of the Universe is dominated by some field of unknown nature - dark energy - acting anti-gravitationally (dark energy). However, all our current evidence for the existence of dark energy, whether in the form of a cosmological constant or an evolving field, is indirect and global (based on the effect of dark energy on the Universe as a whole). I will discuss a novel possibility for probing dark energy, using galaxy clusters on their largest non-expanding scales. I will show how measurements of the boundary between galaxy clusters and the expanding Universe can directly and uniquely probe dark energy **locally**: on scales much smaller than the observable Universe, and at the present cosmic time.*