



## INSTITUT ZA FIZIKU SEMINAR

Institut za fiziku, Bijenička cesta 46,  
predavaonica u zgradi Mladen Paić

**Seminar Znanstvenog centra izvrsnosti za napredne materijale i senzore  
(CEMS)**

**Istraživačka jedinica za fotoniku i kvantnu optiku  
u organizaciji IRB-a i IF-a**

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# **Euclid: a space mission to shed light on the dark universe**

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The accelerated expansion of the Universe and its relationship with dark energy and/or with possible effects of modified gravity, represents one of the most important and interesting phenomena of the current panorama of the physics of fundamental interactions and cosmology. Euclid is a European Space Agency (ESA) medium-class mission designed to shed light on the “dark side of the Universe”. Euclid will explore the distribution of masses in the Universe to study the gravitational distance-redshift relationship and the evolution of large-scale cosmic structures over the last 10-billion-years. These goals will be achieved by using two independent cosmological “probes”: Weak Gravitational Lensing and Galaxy Clustering. The complementary use of these two “probes” on a catalog of 1.5 billion galaxies which will be observed in shape and photometric distance, together with 30 million spectra of galaxies, will allow an improvement of at least one order of magnitude in the accuracy of the observables of various models of dark energy and modified gravity. The mission is scheduled for launch in 2021 and is designed for 6 years of nominal survey operations covering about 15000 square degree of extragalactic sky.

Voditelji seminara IF-a: [Hrvoje Skenderović](#) i [Damir Starešinić](#)