

Seminarium Astrofizyczne

wtorek 22.03.2022 godz. **17:00 !!**

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Mario C. Díaz

(Department of Physics and Astronomy, The University of Texas Rio Grande Valley)

The hunt for the next kilonova

In this talk I will report about the status of the TOROS project. The Transient Optical Robotic Observatory of the South is a USA-NSF funded astronomical observatory designed to follow-up gravitational wave events located in the Atacama desert in Northwestern Argentina. Binary neutron star mergers are expected to be among the most frequent of such events. Built at a rather modest cost, TOROS could make a critical contribution to the multi-messenger research infrastructure in the southern hemisphere. The rapid localization and accurate characterization of electromagnetic emission associated with the merger of two neutron stars (or a neutron star and a black hole) can make significant contributions to the understanding of the production of heavy elements through nuclear r-processes. And additionally, the associated gravitational wave information has the potential to yield estimates of the expansion rate of the Universe (the Hubble constant) that complement and are competitive with current techniques. I will also discuss what is the TOROS expected performance for the O4 LIGO VIRGO KAGRA observational campaign scheduled to begin in 2023.

Serdecznie zapraszam,

Agnieszka Majczyna