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Room A206

Distributed architectures for a Gamma Ray Burst all-sky monitor

Abstract

August 2017, with the GW170817 event, marked the beginning of the so-called multi-messenger astrophysics, in which new observations of Gravitational Waves (GW) added up to traditional electromagnetic observations from the very same astrophysical source. In the next few years Advanced LIGO/VIRGO, KAGRA in Japan and LIGO/India will reach their nominal sensitivity. In the electromagnetic domain the Vera C. Rubin Observatory will come on line on 2023 and it will revolutionize the investigation of transient and variable cosmic sources in the optical band. The operation of an efficient X-ray all-sky monitor with good localisation capabilities will have a pivotal role in providing the high-energy counterparts of the GW interferometers and Rubin Observatory, bringing multi-messenger astrophysics to maturity. To gain the required precision in localisation and timeliness for an unpredictable physical event in time and space requires a sensors distribution covering the full sky. We discuss the potential and the programmatic implications of large-scale small-platform distributed architectures based on the HERMES Pathfinder, SpIRIT, Camelot/GRBAAlpha, and GALI precursors, to build such a sensitive X-ray all-sky monitor.

Le pubblicazioni del progetto **HERMES Pathfinder** sono consultabili all'indirizzo: https://www.hermes-sp.eu/?page_id=4098

Si segnalano in particolare:

<https://doi.org/10.3390/galaxies9040120>

https://doi.org/10.1007/978-981-16-4544-0_35-1

[arXiv:2101.03078](https://arxiv.org/abs/2101.03078)

[arXiv:2101.03082](https://arxiv.org/abs/2101.03082)

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