

A new gamma-rays all sky monitor for multimessenger astronomy: the Crystal Eye

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With the observation of the gravitational wave event of August 17th 2017 the multi-messenger astronomy era has definitely begun. With the opening of this new panorama, it is necessary to have new instruments and a perfect coordination of the existing observatories.

Crystal Eye is a detector aimed at the exploration of the electromagnetic counterpart of the gravitational waves. Such events generated by neutron stars' mergers are associated with γ -ray bursts (GRB).

At present, there are few instruments in orbit able to detect photons in the energy range going from tens of keV to few MeV. These instruments belong to two different old observation concepts: the all sky monitors (ASM) and the telescopes.

The detector we propose is a crossover technology, the Crystal Eye: a wide field of view observatory in the energy range from 10 keV to 10 MeV with a pixelated structure.

A pathfinder will be launched with Space RIDER in 2022. We here present the full characterization of the first pixel.

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