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Multi-messenger studies with the Pierre Auger Observatory

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The combination of data from observatories measuring ultra-high energy cosmic rays, photons, neutrinos and gravitational waves has provided new insights into the most extreme phenomena in the Universe. Sharing information within a broad community is the foundation of the multi-messenger approach.
The Pierre Auger Observatory, the world's largest cosmic ray detector, provides sensitivity to photons and neutrinos above 10^{17} eV, thus contributing efficiently to this joint effort.
The latest results from diffuse and targeted searches will be reviewed here, along with results from follow-up analyses and future perspectives.
In particular, preliminary limits on photon fluence from a selection of gravitational wave sources detected by LIGO/Virgo and results of the search for ultra-high energy neutrinos from binary black hole mergers will be presented.

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