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## Very-high-energy photons and Neutrinos, and Gravitational waves from GRBs and Blazars

*Tuesday 1 December 2020 09:05 (1 hour)*

Very-high-energy (VHE;  $> 10$  GeV) photons are expected from the nearest and brightest Gamma-ray bursts (GRBs). VHE photons, at energies higher than 300 GeV, have been recently reported by the MAGIC and H.E.S.S. collaborations for different bursts. Orbiting satellites and ground-based telescopes followed these bursts. We analyze the multi-wavelength observations and show that the high-energy photons are produced in the deceleration phase of the outflow, and some other processes to synchrotron in the forward shocks should be considered to adequately describe the LAT, MAGIC, and HESS photons with energies beyond the synchrotron limit. Besides, we talk about the short GRB 170817A, which was associated with producing gravitational waves from a binary neutron star merger. Finally, we talk about the detection of a prolonged flaring activity from blazar TXS 0506+056 in temporal and spatial coincidence with the energetic neutrino IceCube-170922A

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