

# Electromagnetic radiation from binary neutron star mergers

*Wednesday 12 October 2022 11:00 (30 minutes)*

Joint detection of GW and EM from binary neutron star merger provides enormously more information than detection of the GWs or the EM alone. This was beautifully demonstrated by the recent LVC runs and the comparison of GW 170817 with its EM counterparts and GW 190425 for which those weren't discovered. The EM radiation from binary neutron star mergers includes several distinct sources: The prompt gamma-ray burst, the cocoon breakout, the afterglow and the kilonova. Combining information from GRB 170817A, GW 190425 and from the population of short GRBs I compare the detectability of the different components of the emission and estimate the chances and rates of joint detection of GWs and EM from future mergers.

## Track

Gravitational Waves

**Primary author:** PIRAN, Tsvi (The Hebrew University)

**Presenter:** PIRAN, Tsvi (The Hebrew University)

**Session Classification:** Plenary 6