

New ALP Constraints from Multi-messenger Studies of GW170817

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Extreme astrophysical environments like neutron star mergers provide a new window of opportunity in our quest for physics beyond the Standard Model. I will discuss new constraints on axion-like particles coupling to photons using the multi-messenger observations of the neutron star merger event GW170817. We argue that with more accurate data on spectral and temporal profiles of the electromagnetic signals from future mergers, these constraints can be significantly improved.

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