Astrophysical transient constraints on BSM physics

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While it is way too early to make a final judgement, it is noteworthy that searches at LHC and direct detection experiments reported null results, therefore boosting the ever growing interest in sub-GeV dark sector candidates. Owing to their high temperature and density, the cores of proto-neutron stars, remnant of core-collapse supernovae and neutron star mergers, can be factories of particles with mass of up to several hundreds MeV. In this talk, we will summarize the state of the art of transient-based searches, and identify open questions and future directions.

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