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## Dark matter and signatures in multimessenger astronomy

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Unsuccessful searches for new physics in the TeV domain at the LHC so far cast some doubt about the predictivity level of some theoretical frameworks beyond the standard model of particle physics that lead to dark matter candidates. Hierarchies among scenarios have been reshuffled and are now more and more ruled according to the plausibility of dark matter production in the early universe. Besides, the cold dark matter scenario suffers difficulties in matching with observations of dark matter structuring on small (subgalactic) scales, which could be interpreted in terms of new specific properties for dark matter itself. In this talk, I will briefly sketch the current landscape of (the main) dark matter candidates and discuss their potential signatures in multimessenger astronomy.

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**Classification de Session:** Dark matter + Multiwavelength studies of BH