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Magnetars and Fast Radio Bursts: a new connection?

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Over 15 years since their discovery, the origin of fast radio bursts (FRBs) still eludes us, despite outstanding progress both observationally and theoretically. The huge FRB luminosities, the apparent dichotomy between one-offs and repeaters, and the lack of bright FRB sources in the local Universe, are just some of the theoretical challenges still facing us. Among the countless theoretical interpretations, many authors proposed that (at least some) FRB sources be related to the cosmic population of magnetars. Observations lend support to this hypothesis, as the galactic magnetar SGR 1935+215 is the only known astrophysical source from which FRB-like radio emission has been detected. I will summarize the main advantages, and some shortcomings, of magnetar-based FRB models and will introduce a new paradigm that holds the potential to overcome the main hurdles, to explain at once the rare repeaters and the numerous one-off sources, and to even bridge the gap between the apparent paucity of FRBs from local magnetars and their comparatively large all-sky rate.

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