
Magnetars: the explosive character of a small class of strongly magnetized neutron stars

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Abstract

I will review our current knowledge on the most magnetic objects in the Universe, a small sample of neutron stars called magnetars. The powerful persistent high energy emission and the flares from these strongly magnetized (10^{15} Gauss) neutron stars are providing crucial information about the physics involved at these extremes conditions, reserving us many unexpected surprises. Furthermore, I will show how the different neutron stars classes we know can be unified by a single evolutionary model taking into account their magnetic field decay, starting from different strengths and configurations at birth.

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