Magnetar origin and progenitors with enhanced rotation

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Among a dozen known magnetar-candidates there are no binary objects. Because an estimate of the fraction of binary neutron stars is about 10%, it is reasonable to address the question of solitarity of magnetars, to estimate theoretically the fraction of binary objects among them, and to mark probable companions. We present population synthesis calculations of binary systems. Our goal is to estimate the number of neutron stars originated from progenitors with enhanced rotation, as such compact objects can be expected to have large magnetic fields (i.e., they can be magnetars). The fraction of such neutron stars in our calculations is about 13–16%. Most of these objects are isolated due to coalescence of components prior to a neutron star formation, or due to a system disruption after a supernova explosion. The fraction of such neutron stars in survived binaries is about 1% or lower. Their most numerous companions are black holes.