

## Compact stars in the QCD phase diagram VI (Cosmic matter in heavy-ion collision laboratories?)

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# Explosions of massive stars triggered from the 1st-order hadron-quark phase transition at high density

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Any reliable equation of state (EOS) for astrophysical applications faces recently severe constraints, in particular associated with the high-precision observations of massive pulsars. Within the development of a novel phenomenological EOS for quark matter we realize the required stiffness at high density due to the inclusion of repulsive vector interactions. The extension of this model EOS to finite temperatures and arbitrary isospin asymmetry enables us to study the hadron-quark phase transition in simulations of core-collapse supernovae.

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