

PRISMA+ Colloquium

Nov. 5, 2014 at 1 p.m.
Lorentz-Raum 05-127, Staudingerweg 7

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Fundamental Physics and Astrophysics Problems Around the Birth and Death of Neutron Stars

The birth of neutron stars by the collapse of stellar cores and their death in violent binary mergers are catastrophic events, which are connected to spectacular phenomena like supernovae and gamma-ray bursts and to important open questions in stellar astrophysics.

They also offer possibilities to probe regimes of extreme physics that are hardly accessible by laboratory experiments and direct observations. Numerical simulations are therefore indispensable to improve our understanding of the processes in the obscured interior of these explosive phenomena. The talk will review recent progress in a fast-moving field from a theorists perspective. In particular, it will show how new insights are fostered by the enormous advances in three-dimensional computational modeling.