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Pions, hyperons and quark matter in neutron star mergers

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We discuss recent calculations investigating the detailed impact of various "non-nucleonic" degrees of freedom in neutron star mergers. Pions are neglected in equation of state tables for merger simualtions but might actually occur in neutron star matter. We quantify their potential impact on the obseravbles of neutron star mergers. We describe a weak but potentially measurable signature of hyperons in neutron star mergers. Finally, we discuss the effects of deconfined quark matter.

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