Discussion: Deconfinement Phase Transition

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- Was GW170817 indeed a neutron star merger? Evindence for a hybrid star merger?
- Twins and pasta: mixed phase constructions and third family solutions
- The QCD Phase Diagram: probed by supernovae and merger events

"The first compact star merger event", ECT* Trento, 17. Oct. 2019

DUBNA

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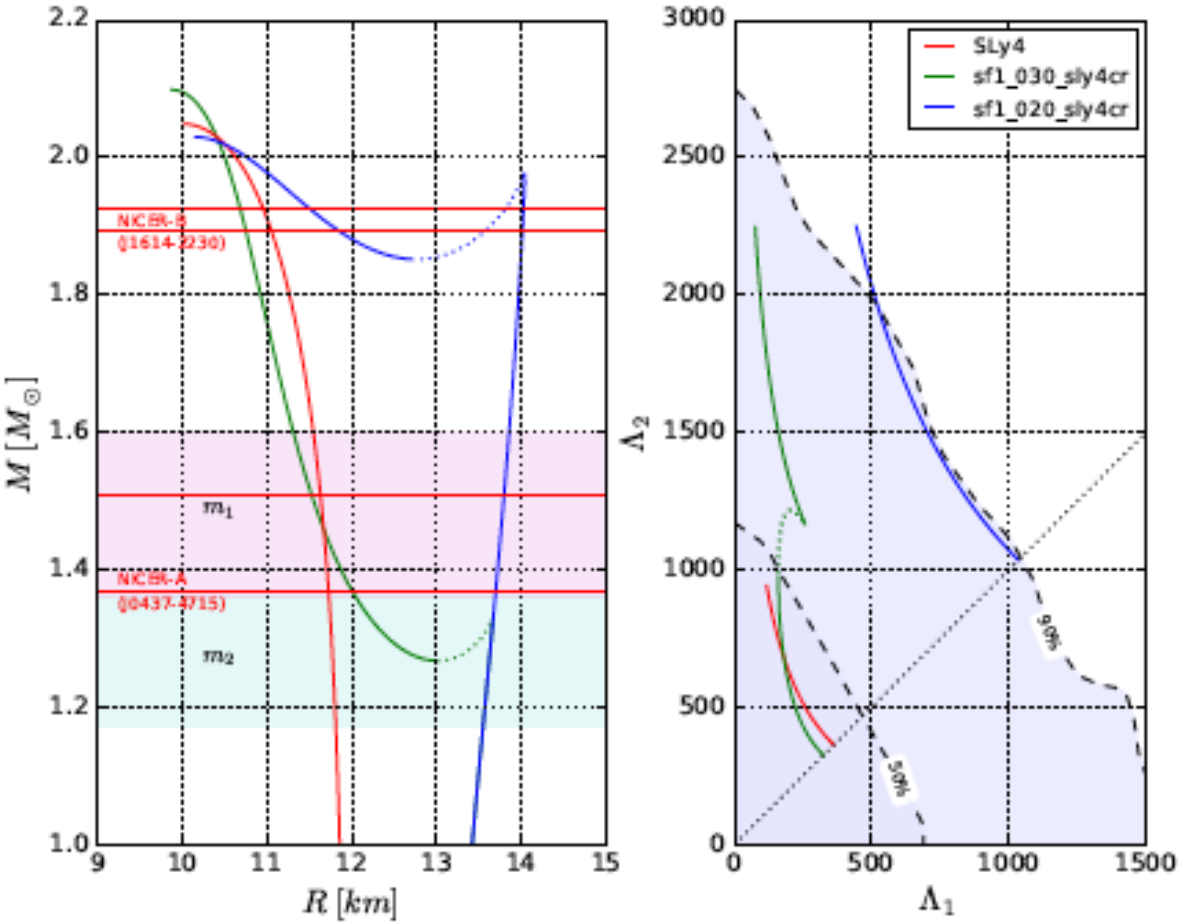
Was GW170817 indeed a binary neutron star merger?



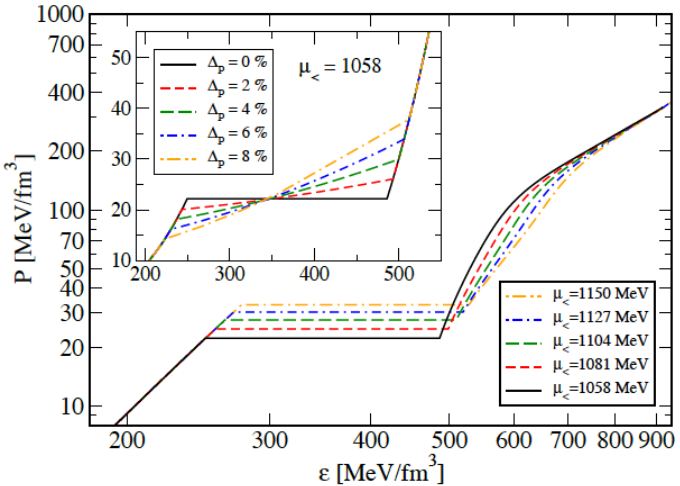
EoS
Hadronic:
SLy4 (red)
DD2p40 (blue)
Quark:
SFM_alpha=0.2 (blue)
SFM_alpha=0.3 (green)

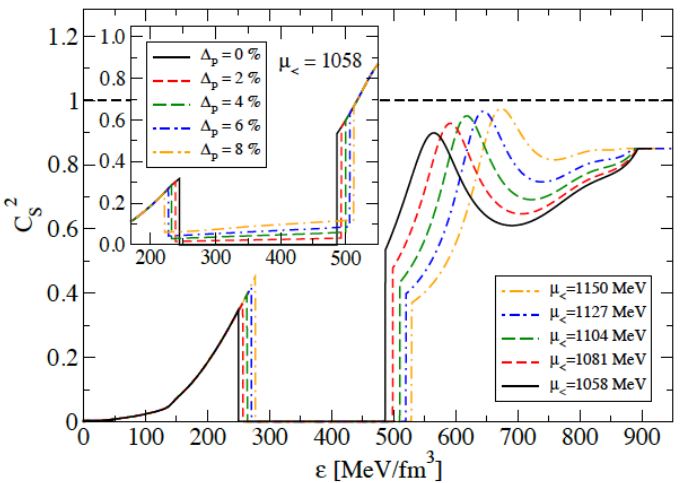
[Kaltenborn et al., PRD (2017)]

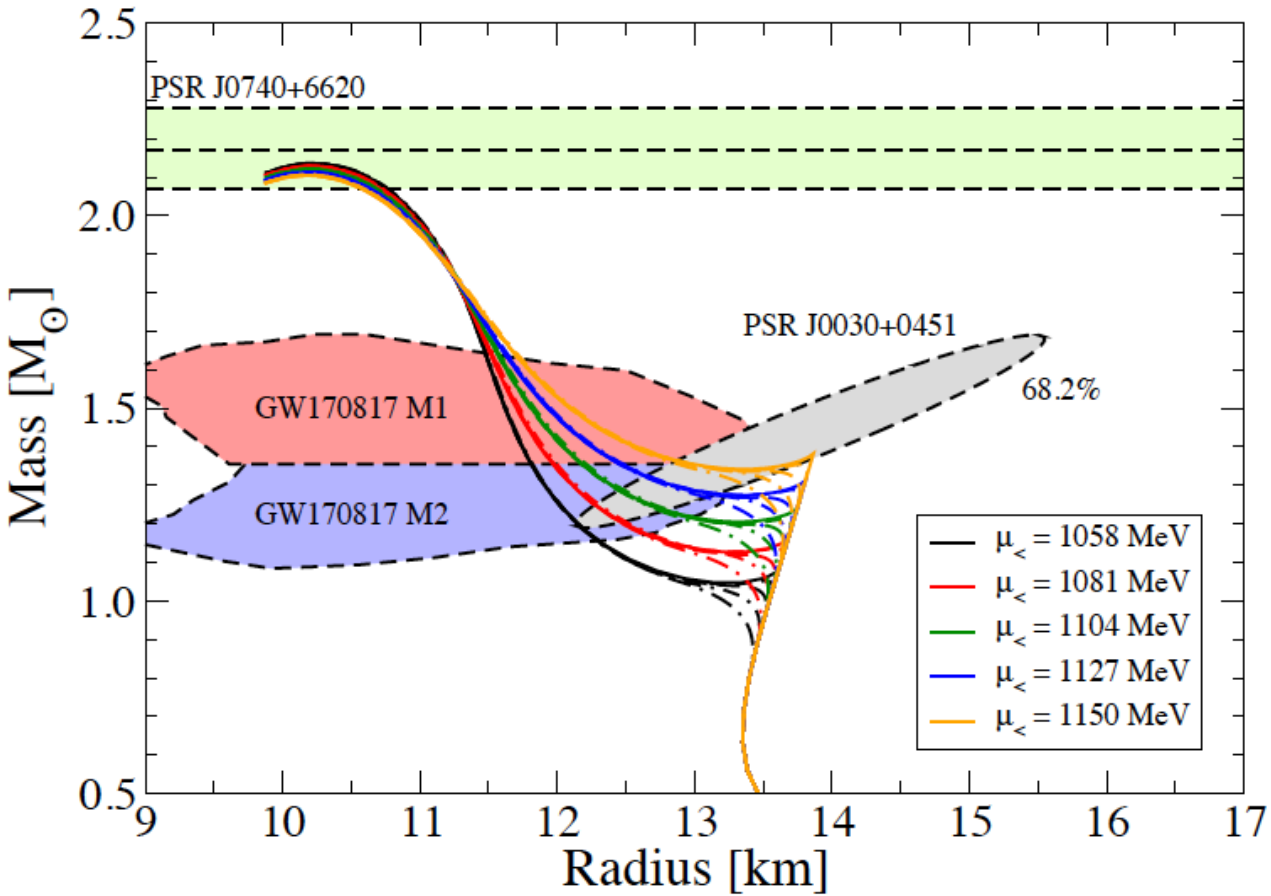
Figure
Blaschke & Chamel
[ArXiv: 1803.01836]

Courtesy: M. Bejger (CAMK)

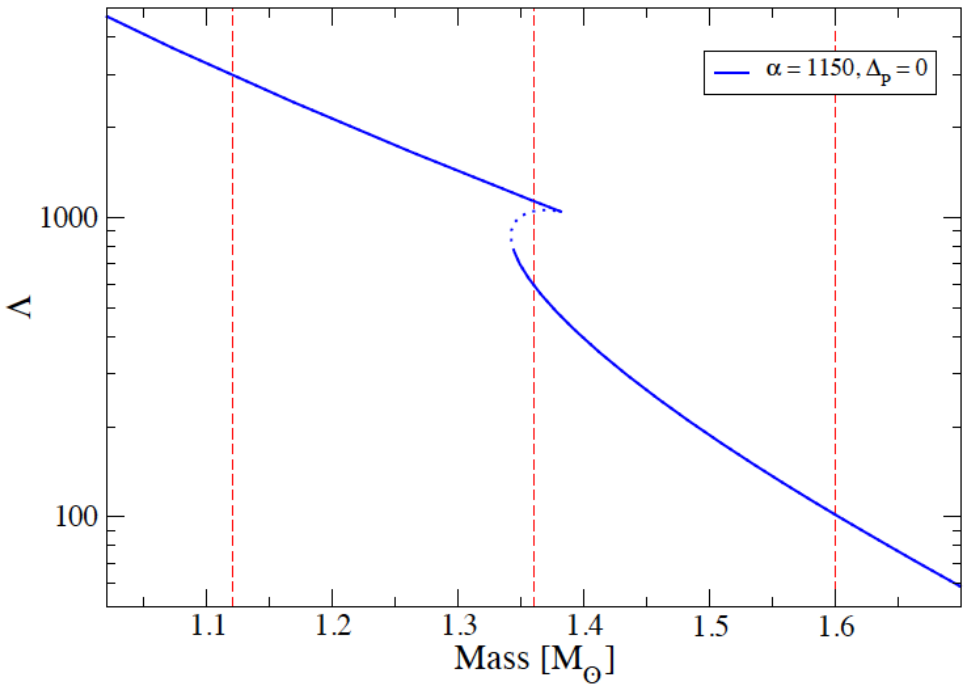
Twins and Pasta

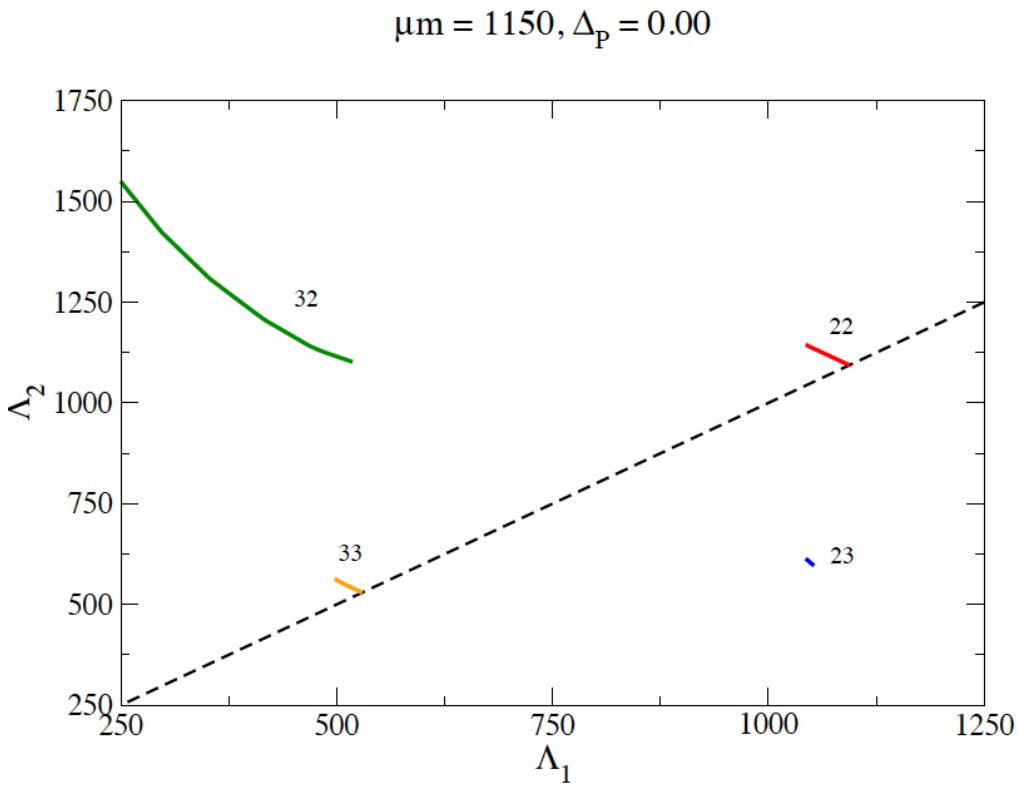






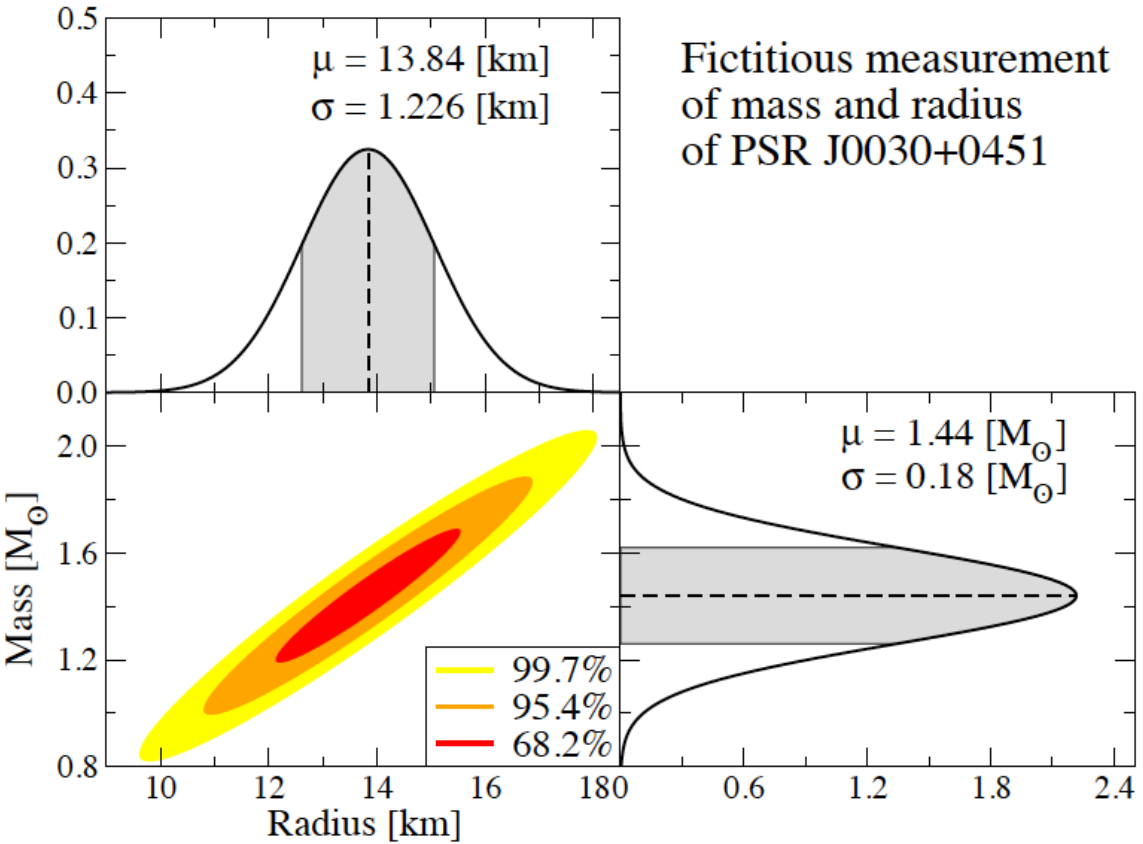
Twins and Pasta





D. Alvarez-Castillo, D. Blaschke, G. Grunfeld, V. Pagura Phys. Rev. D 99, 063010 (2019) - arXiv: 1805.04105

Twins and Pasta



Data from talk “First results on the EoS Constraints from NICER”by S. Guillot at the Workshop MODE-SNR-PWN 2019 “Neutron stars and their Environments”, April 8, 2019

QCD Phase Diagram