

Symmetry breaking patterns in QCD and the study of cold dense matter

[J. Braun, ML, M. Pospiech, PRD 96, 076003 (2017)]

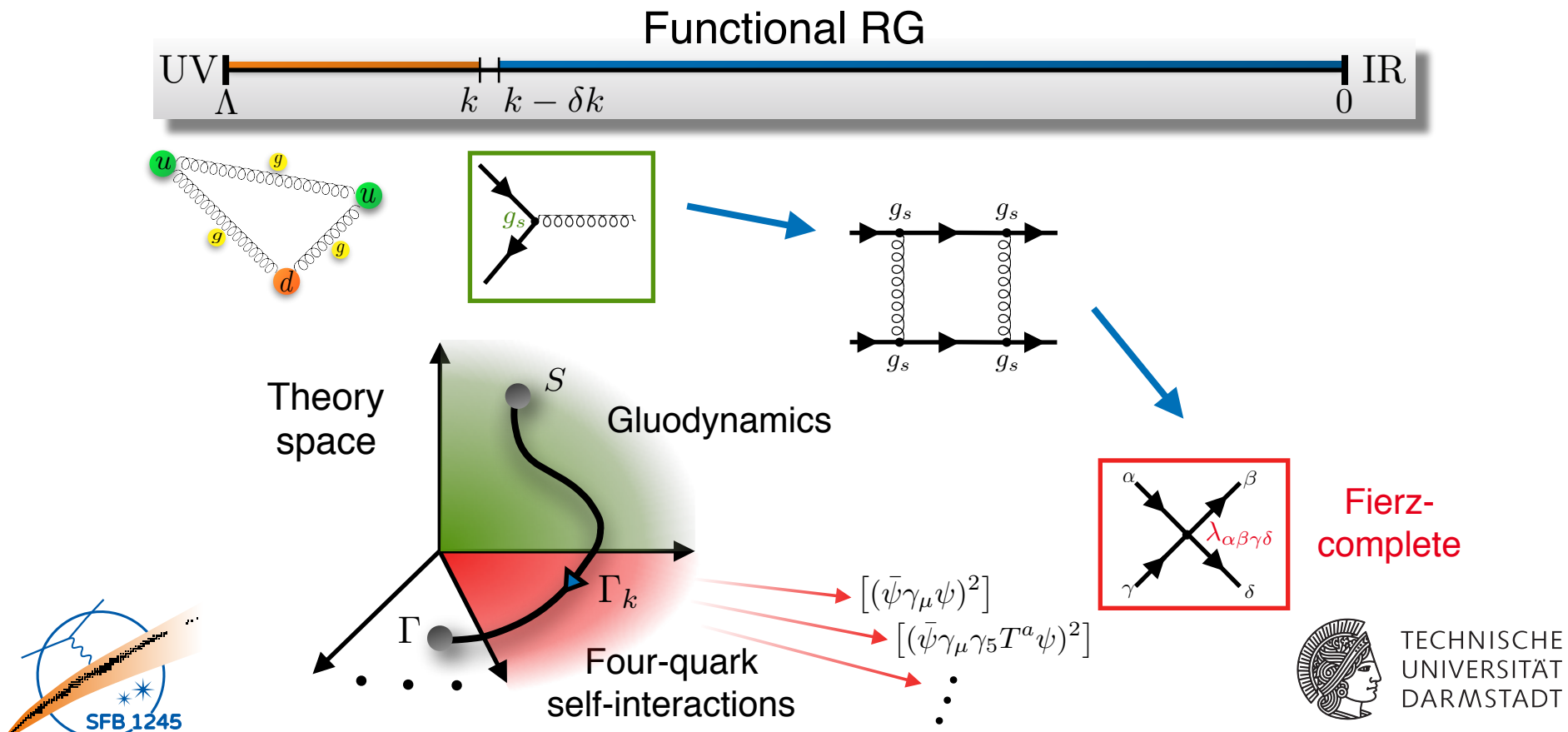
[J. Braun, ML, J. M. Pawłowski, appears on arXiv soon]

[J. Braun, ML, M. Pospiech, PRD 97, 076010 (2018)]

[J. Braun, C. Drischler, K. Hebeler, ML, M. Pospiech, in prep.]

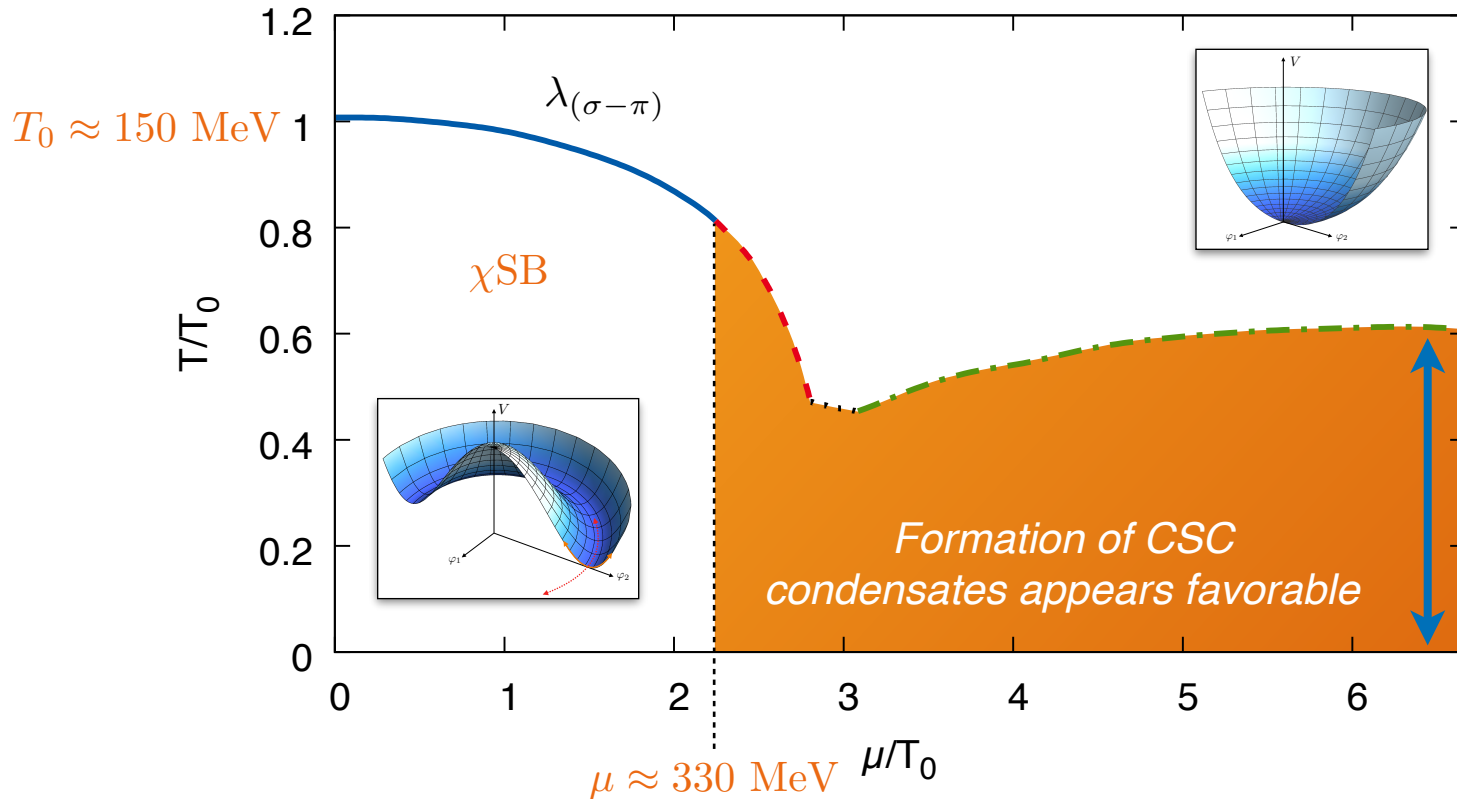
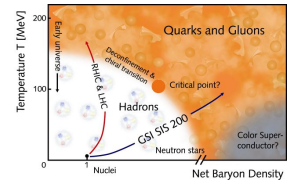
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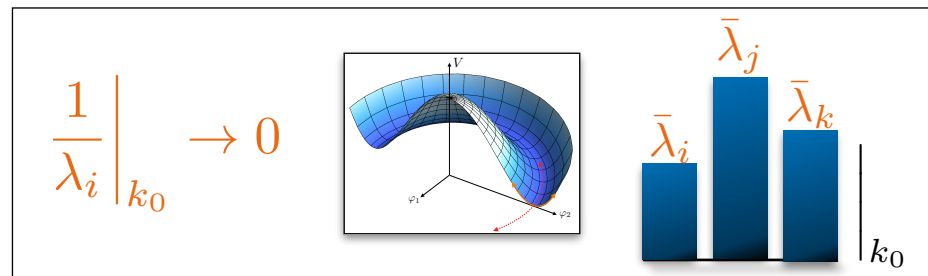


Exploring the phase diagram

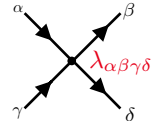
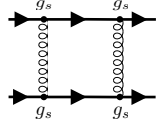
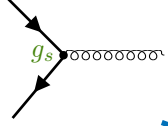
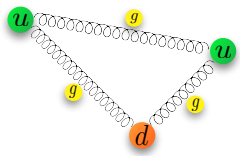
Fixed-point structure and patterns of symmetry breaking



Implications for EoS!

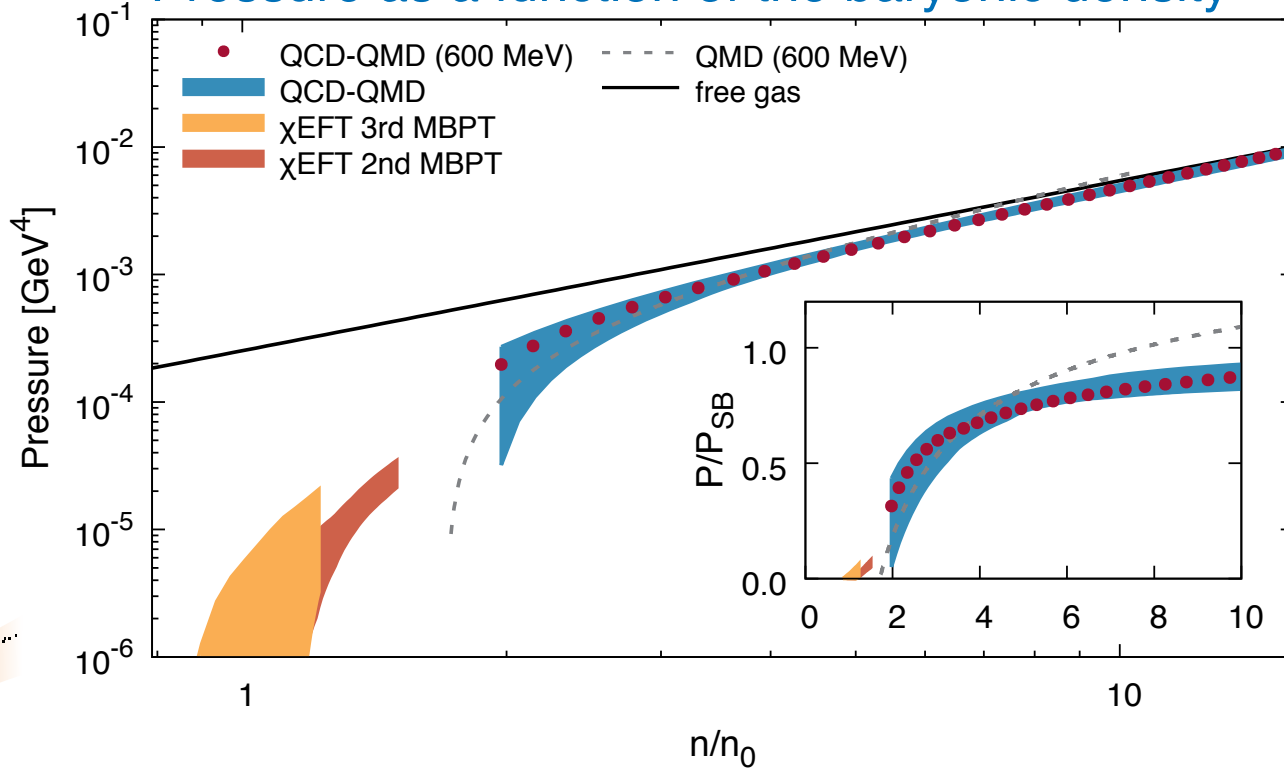


Connecting to the quark-meson-diquark model → EoS



$$\Gamma_{\text{QMD}, \Lambda_0} = \frac{1}{2} \frac{1}{\bar{\lambda}_{(\sigma-\pi)}(\Lambda_0)} \bar{\varphi}^2 + \frac{1}{2} \frac{1}{\bar{\lambda}_{\text{csc}}(\Lambda_0)} |\bar{\Delta}|^2$$

Pressure as a function of the baryonic density



preliminary