Future directions

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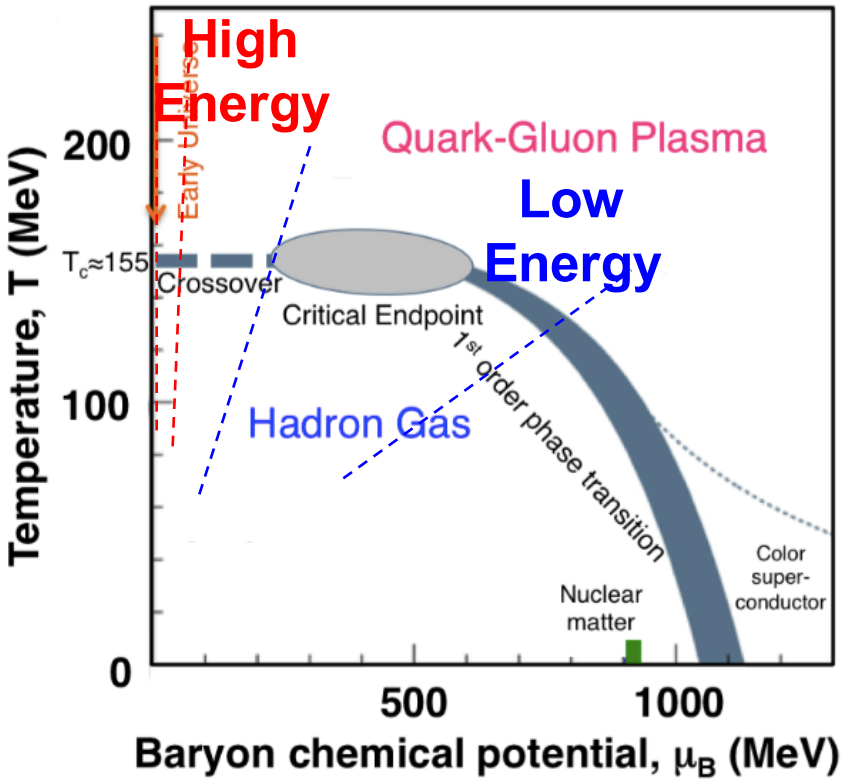


High Energy collisions (RHIC,LHC):

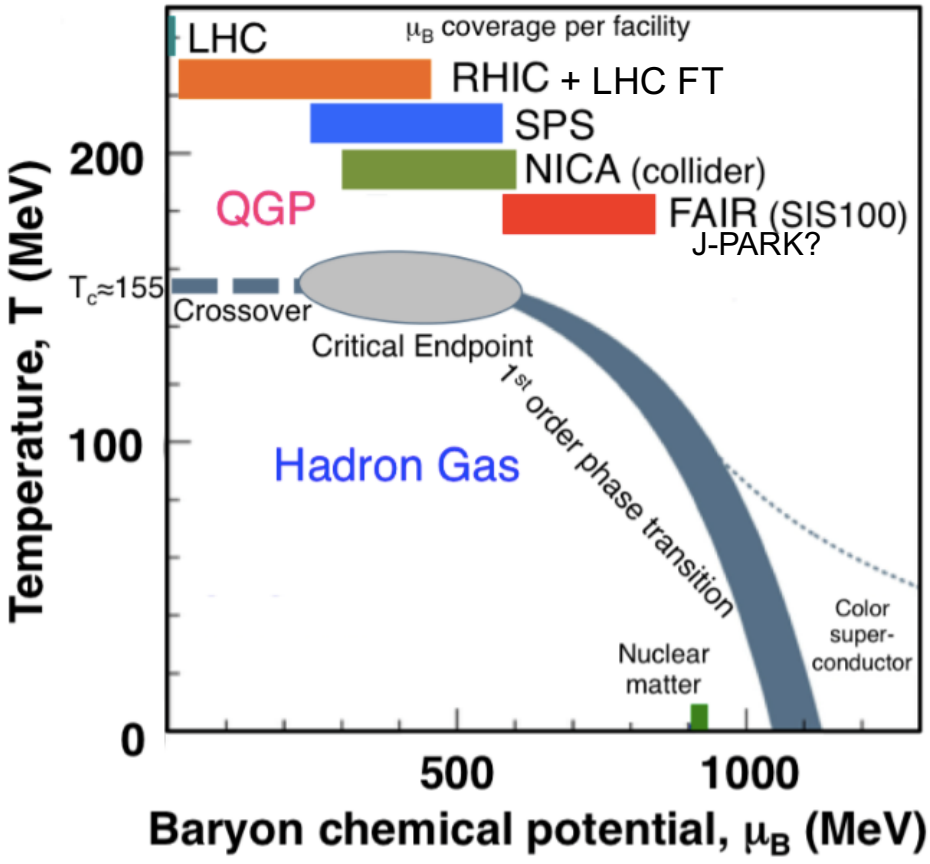
- Quantify properties of QGP fluid
- How is collectivity developed? can it be developed also in "small systems" (pA)?

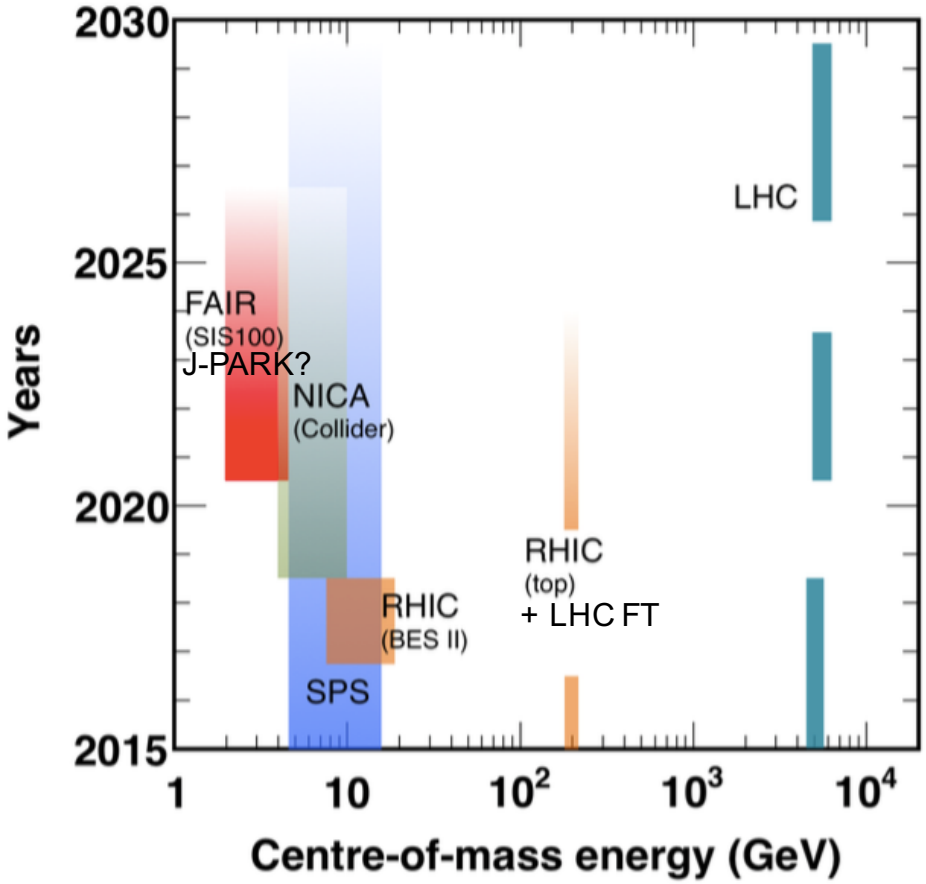
Low Energy collisions (RHIC,SPS,FAIR):

- Onset of deconfinement
- Search for the critical point

- **Experiment** → move **from observation to precision**; exploit detector technology development; systematic scan of the phase diagram
- **Theory** → comparison of **first-principle calculations** (e.g. lattice QCD) with data; for example, **for QGP transport parameters** and viscosity

Future landscape of HI facilities (<2030)





From A. Dainese et al., arXiv:1602.04120

Beyond 2030 ?

- EIC
- LHeC
- HE-LHC
  - Use 16 T magnets in LHC → x2 increase in beam energy (11 TeV)
  - Luminosity estimates for Pb-Pb not yet available
- FCC/SppC with nuclei
  - x7 higher energy wrt LHC (Pb-Pb at 39 TeV)
  - FCC: see CERN Yellow Report (2017) no.3, 635-692