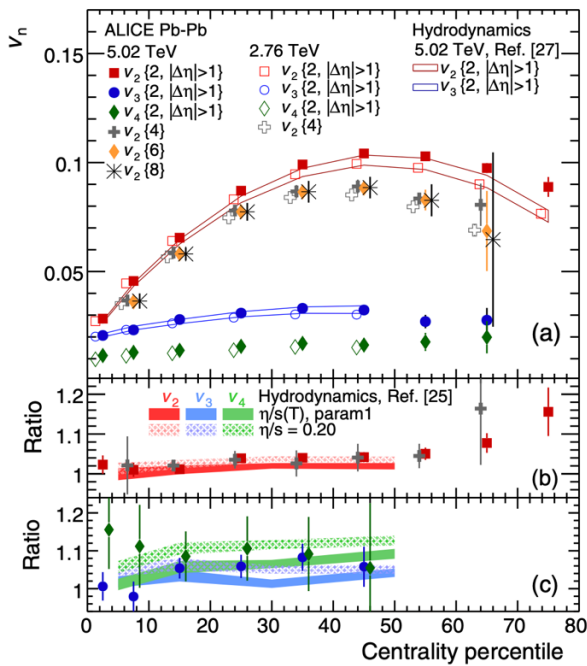
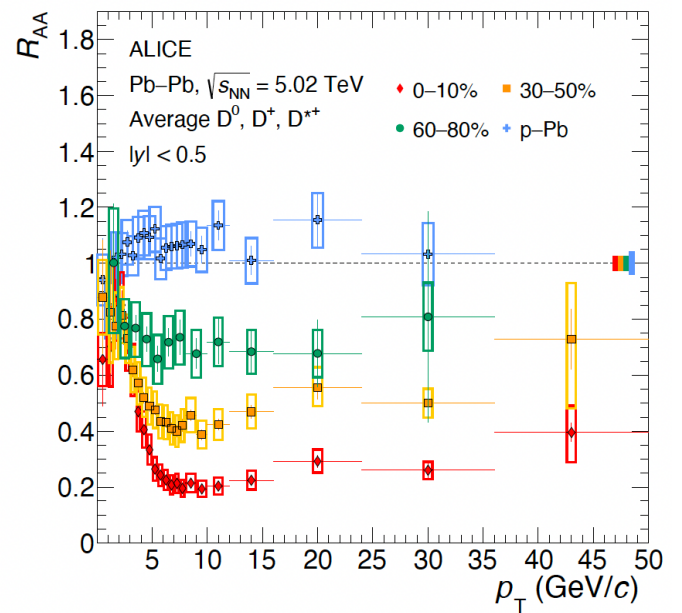


## Quiz - Heavy-Ion Physics, Quark-Gluon Plasma

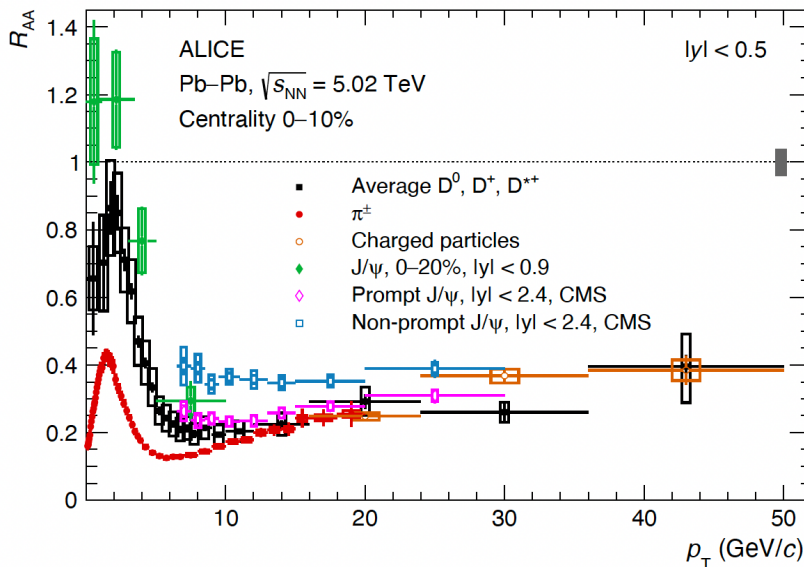
1. Sketch the QCD phase diagram; explain the axes and the phases.
2. Shortly describe the space-time evolution of a heavy-ion collision at high energies.
3. What are the necessary conditions for a formation of a quark-gluon plasma?
4. Is a quark-gluon plasma created in heavy-ion collisions at the LHC? (Yes/No +Reason)
5. What is depicted in the figures below (discussed in lecture)? Explain the underlying physics.
6. Why are  $J/\psi$  mesons an interesting probe in heavy-ion collisions?



ALICE Collaboration: [PRL116\(2016\)132302](https://arxiv.org/abs/1606.07692) (Fig. 1)



ALICE Collaboration: [arXiv:2110.09420 \[nucl-ex\]](https://arxiv.org/abs/2110.09420) (Fig. 7)



ALICE Collaboration: [arXiv:2110.09420 \[nucl-ex\]](https://arxiv.org/abs/2110.09420) (Fig. 9)