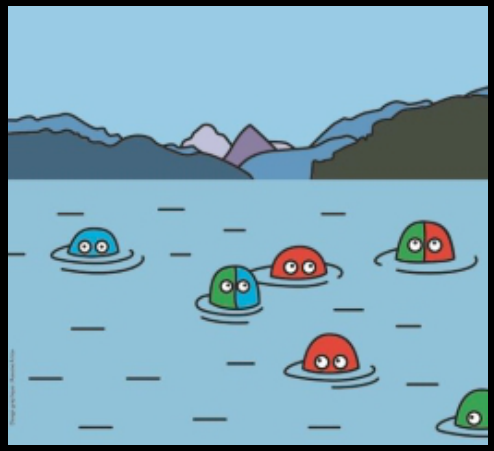
Morning summary and discussion



FH2022 Programme "Heavy Flavours from small to large systems "
Institut Pascal, Orsay, France
October 3-21, 2022

Talks

Heavy-flavor meson and baryon production in high-energy nucleus-nucleus collisions — *Andrea Beraudo*

Institut Pascal — 09:30 - 09:55

Experimental review of open heavy flavour in heavy ion collisions — *Barbara Trzeciak*

Institut Pascal — 10:00 - 10:20

Search for QGP droplets with high pT and HF — *Ivan Vitev*

Institut Pascal — 10:25 - 10:45

Breakfast/Coffee break with pastry

Institut Pascal — 10:50 - 11:10

Coalescence — *Salvatore Plumari*

Institut Pascal — 11:10 - 11:30

Is heavy meson/baryon production special and why?

- What do we learn from heavy quark diffusion? (And to what extent are we sure that this is the correct physics?)
- How do we extrapolate to finite p_T a quantity defined in the zero momentum limit?
- What are the advantages and disadvantages of the different event generator hadronization schemes?
- What are the connections between cluster hadronization and coalescence? Are they the same?
- Whar did we learn from Λ/D?Can this framework be extended to high p_T

What do we learn experimentally from heavy flavor in HIC?

- Do we have a clear picture about the mass ordering or energy loss for light and heavy quarks (uds; c; b)? How about gluons? What are the relevant p_Ts?
- What are the most striking/unexpected features of HF modification?
- What are future plans for heavy flavor measurements? What open questions are they going to address and how?
- Experimentally, do you see similarities between open HF and quarkonia in terms of physics description? Is there consistent message about the medium produced?

CNM or QGP in small systems?

- How do we reconcile apparent collective behavior with no jet quenching signatures in small asymmetric systems?
- Are there alternative explanations for the apparent "collectivity"
- Are we missing signatures of jet quenching? How do we determine centrality in p(d)+A
- What are the advantages of small symmetric systems like O+O? What is the role of HF?

Is coalescence the right hadronization mech. at low p_T?

- What are the differences between various coalescence models. Are spatial correlations included and what s their role? (i.e. the full Wigner function)

- How can coalescence and fragmentation be matched? Can this be done from first principles and not in models?

- What are the colliding systems where coalescence is applicable? (speculate about e+e-). What are low p_T alternatives?

- What is you favorite "coalescence observable"? What needs to be studied further?