

Heavy flavour in heavy-ion collisions at the Future Circular Collider (FCC)

Half-day workshop at ECT*, Trento, on 20 March 2015, 14:00.

Organizer: A. Dainese (INFN, Padova)

Abstract:

A five-year international design study called Future Circular Collider (FCC) has been launched by CERN in February 2014. The main goal is to assess the feasibility and physics potential of a hadron collider with a centre-of-mass energy of 100 TeV for pp collisions in a new 80–100 km tunnel near Geneva. The starting date is targeted for 2035–40. Operating such machine with heavy ions is part of the accelerator design studies. The energy in centre-of-mass per nucleon–nucleon collision would be 39 TeV for Pb–Pb and 63 TeV for p–Pb collisions. A first conservative estimate of the integrated luminosity for Pb–Pb collisions results in about 5-10 nb⁻¹ per month of running, which is 5-10 times larger than the current projection for the future LHC runs. The increase in the centre-of-mass energy and integrated luminosity with respect to the LHC opens new opportunities for physics with heavy ions. This topical workshop aims at fostering discussions and ideas in the scope of heavy flavour and quarkonium production.

Programme:

- Introduction and first ideas on ions at FCC - A. Dainese (25')
- Boosted tops in heavy ion collisions at the FCC - L. Apolinario (10')
- Charm at high temperature in lattice QCD - M. Lombardo (10')
- Particle production at FCC - P. Braun-Munzinger (10')
- Quarkonium production at FCC - K. Zhou (10')
- Comments and ideas on heavy flavour at FCC:
 - S. Bass (10')
 - A. Beraudo (10')
 - P.B. Gossiaux (10')