Contribution ID: **808** Type: **Poster Presentation**

A multivariate approach to measuring low-mass dielectrons in p-Pb collisions at sqrt(sNN) = 5.02 TeV with ALICE

Monday 4 November 2019 17:40 (20 minutes)

Correlated dielectron pairs are a very promising probe to study the quark-gluon plasma, a deconfined state of quarks and gluons predicted by lattice quantum chromodynamics calculations in ultra-relativistic heavy-ion collisions. Electrons reach the detector without significant final state interactions. In addition, the low-mass dielectron spectrum comes from various sources, i.e. Dalitz and resonance decays of pseudoscalar and vector mesons, semi-leptonic decays of charm and beauty hadrons, as well as the radiation from the thermalised system, which are produced at all stages of the collision. Therefore, dielectron pairs can be used to study the space-time evolution of the system.

While pp collisions provide an important baseline measurement in vacuum for heavy-ion studies, p-Pb collisions can be used to disentangle cold from hot nuclear matter effects. Moreover, recent studies in small colliding systems (pp and p-Pb) showed intriguing collective behaviours similar to observations previously done in heavy-ion collisions. They require further investigations in particular as a function of the event charged-particle multiplicity. Searching for the thermal signatures through dielectrons is also important in small systems to disentangle the initial and final state effects.

In this poster the latest status of the dielectron analysis with ALICE in p-Pb collisions at $\sqrt{s_{\mathrm{NN}}} = 5.02$ TeV will be presented. Data recorded in 2016 are used. Furthermore, it will be discussed how a multivariate approach can be useful for the measurements of low-mass dielectrons.

Authors: CAPON, Aaron (Stefan Meyer Institute for Subatomic Physics (SMI), Austrian Academy of Sciences (AT)); ALICE COLLABORATION

Presenter: CAPON, Aaron (Stefan Meyer Institute for Subatomic Physics (SMI), Austrian Academy of Sciences (AT))

Session Classification: Poster Session

Track Classification: Heavy flavor and quarkonium