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Opportunities of OO and pO collisions at the LHC (20+5)

Wednesday, 13 October 2021 10:00 (20 minutes)

I will discuss the opportunities of the upcoming oxygen-oxygen (OO) and proton-oxygen (pO) run at the LHC. I will briefly present results and projections from the recent dedicated workshop and highlight the unique physics accessible in this run. Measuring partonic energy loss (through suppression of hadron or jet spectra) in OO would be ground-breaking but poses challenges since there is likely not time in the short run for a pp reference measurement at the same energy. I will discuss the precision and accuracy of constructing a pp baseline for the oxygen run, either from perturbative QCD or from interpolation of spectra measurements at nearby energies. I will finally highlight a new proposal to bypass the need for constructing a pp reference by measuring the ratio of OO or pO spectra to pp spectra at a different center-of-mass energy.

Primary authors: BREWER, Jasmine (CERN); Dr MAZELIAUSKAS, Aleksas (CERN); Dr HUSS, Alexander (CERN); Dr VAN DER SCHEE, Wilke (CERN)

Presenter: BREWER, Jasmine (CERN)

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