Abstract Submitted
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SHARE with CHARM[1] MICHAL PETRAN, JOHANN RAFELSKI, Department of Physics, University of Arizona, Tucson, AZ 85721 — The statistical hadronization model predicts particle production in hadronization of quark-gluon plasma [1]. In LHC-ion 2.76 TeV per nucleon collision, a rather large yield of charm is expected, produced in initial hard parton collisions before the QGP phase emerges. Using statistical hadronization method, we predict the expected charmed hadron yields [2]. Our effort is to include charm hadron decay contributions in final hadron yields. Based on experimental decay data, symmetry principles and plausibility arguments, we prepare a complete decay table of all charmed hadrons. CHARM module adds charm decay hadron multiplicity into SHARE [1]. SHARE with CHARM utility uses the charm yield as an additional fit parameter when analyzing hadron production in HI-collisions, which works even without charmed hadron input. Based on precise non-charm hadron yields data, a prediction of charmed hadron production is obtained. About 20% of charm is bound to strangeness and thus charm decays contribute a significant fraction of multistrange hadron yields: a 30% fraction of ϕ, 25% of Ξ and 30% of Ω is produced by charm decays whereas e.g. π yield increases by 10%, (taking as a scaling benchmark 100 charm pairs and a common set of chemical non-equilibrium SHM parameters).

[1] G. Torrieri, et al., Comp.Phys.Comm. **167**,229(2005); ibid.**175**, 635(2006)
[2] I. Kuznetsova and J. Rafelski, Eur.Phys.J. **C 51**,113(2007)

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