

Multi-strange hyperon production is one of the critical tools to understand heavy-ion collision dynamics:

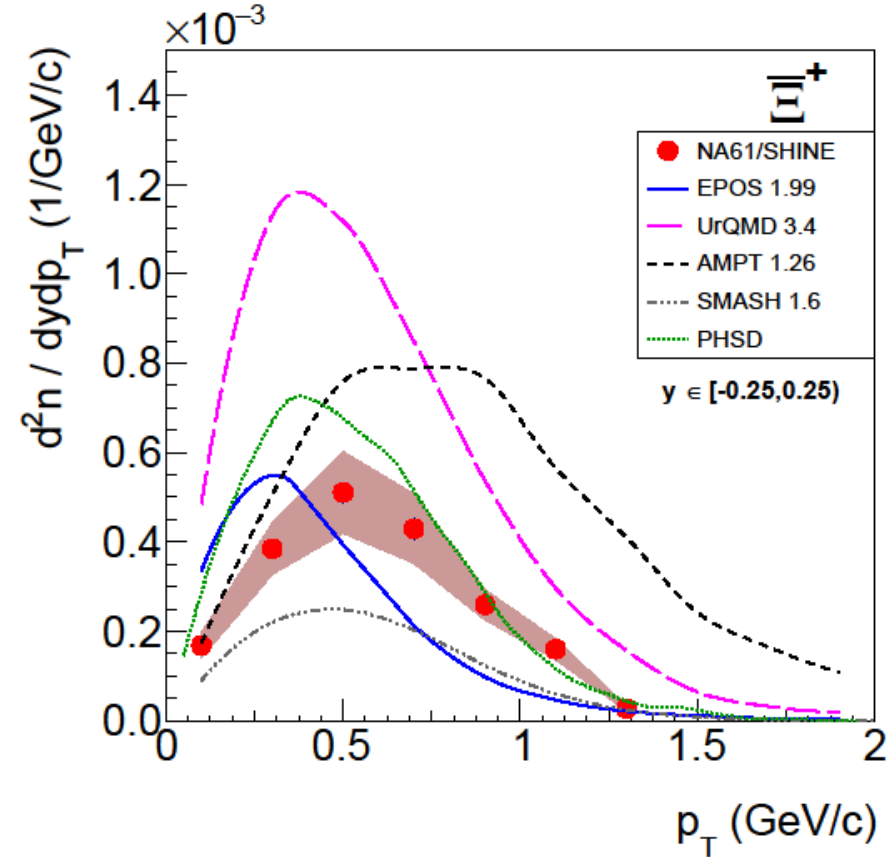
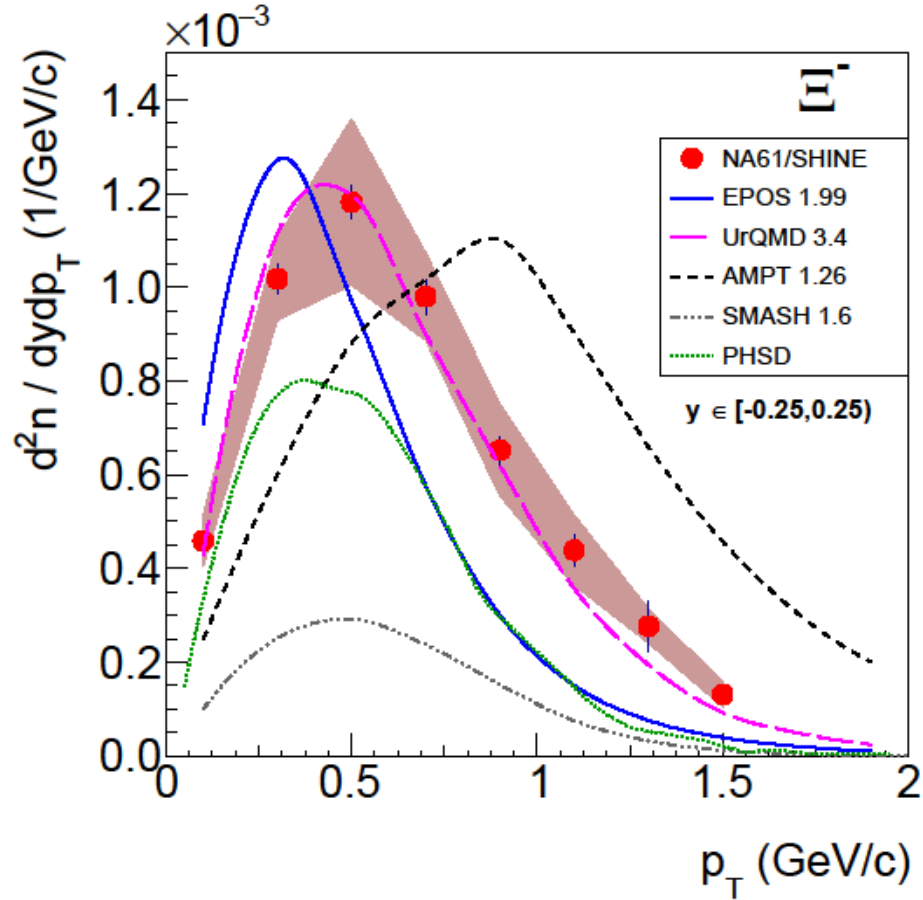
- **One of the first signals of QGP** J. Rafelski, B. Muller Phys.Rev.Lett.48(1982)
- **Hadronization** G. Torrieri, J. Rafelski, New J. Phys. 3, 12 (2001)
- **Conservation laws** J. Letessier et al. Phys.Rev.D 51, 7 (1995)

But nowadays, models still fail to describe it in p+p interactions (They are frequently used as a reference to heavy-ion collisions).

IMPROVEMENT AND HELP IS NEEDED!

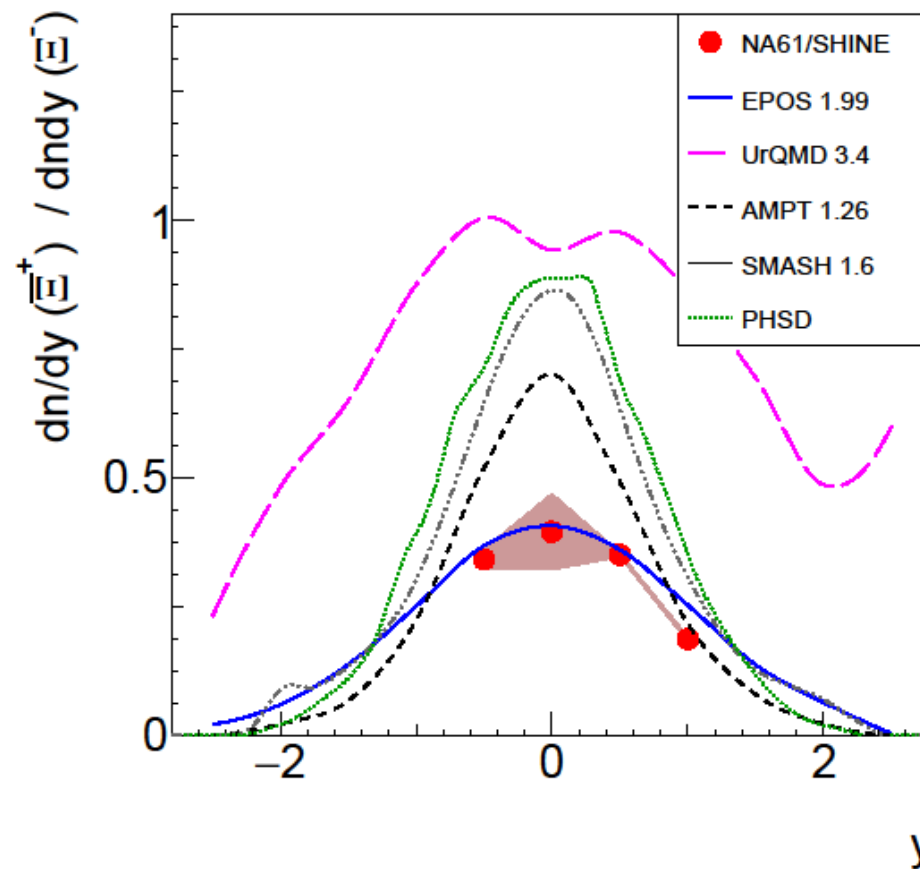
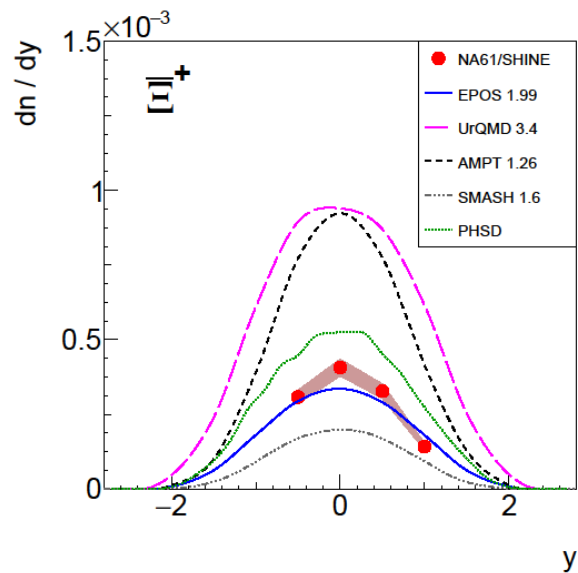
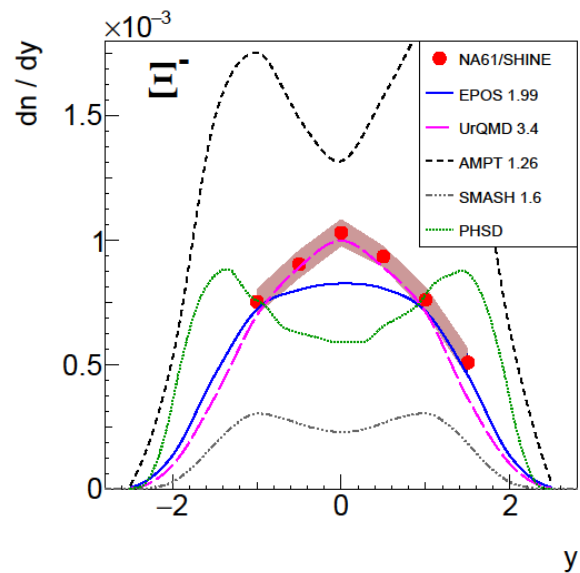
In the simplest model, multi-strange hyperons are produced at the ends or in the middle of strings, via $ss - \bar{s}\bar{s}$ production:

- distributions of multi-strange baryons are peaked around central rapidity**
- the corresponding yields of multi-strange baryons, and their antiparticles should be comparable**



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Urqmd3.4: Prog.Part.Nucl.Phys.41(1998), J.Phys.G25(1999); Epos1.99: Nucl. Phys. Proc. Suppl.175-176(2008); Ampt1.26: Phys. Rev. C72(Dec, 2005), Phys. Rev. C90(Jul, 2014), Phys. Rev. C61(May, 2000); Smash1.6: J. Phys. G47no. 6, (2020) 065101, Phys. Rev. C94no. 5, (2016) and Phsd: Nucl. Phys. A831(2009), Phys. Rev. C78(2008)



More data on multi-strange hyperons production in p+p and A+A collisions will come soon from NA61/SHINE

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