

# Measurement of global polarization of $\Lambda$ hyperons in Au+Au $\sqrt{s_{\text{NN}}} = 7.2$ GeV fixed-target collisions at RHIC-STAR experiment

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1 Non-central heavy-ion collisions produce a large angular momentum that leads  
2 to vorticity of the created system. Due to the spin-orbit coupling, spin directions  
3 of particles are aligned with the orbital angular momentum of the system. Global  
4 polarization of  $\Lambda$  and  $\bar{\Lambda}$  hyperons has been measured in Au+Au collisions from  
5  $\sqrt{s_{\text{NN}}} = 7.7$  GeV to 200 GeV[1][2]. The STAR fixed target program provides an  
6 opportunity to extend such measurements at even lower energies. Additionally,  $\Lambda$   
7 global polarization is also influenced by magnetic field at the initial stage. It would  
8 be interesting to investigate such a effect towards lower beam energies. In this talk,  
9 measurement of global polarization of  $\Lambda$  hyperons in Au+Au collisions at  $\sqrt{s_{\text{NN}}}$   
10  $= 7.2$  GeV with the fixed-target configuration is reported and compared with the  
11 results at other collision energies.

## 12 **References**

- 13 [1] L. Adamczyk et al.(STAR), Nature 548 62 (2017).  
14 [2] J. Adam et al.(STAR), Phys. Rev. C 98 14910 (2018).