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Lambda Polarization in Heavy Ion Collisions

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Non-central heavy ion collisions provide a system with non-zero net angular momentum. If the spin degrees of freedom equilibrate in the fireball, then emitted particles are expected to exhibit a net spin. Lambda baryons are self analyzing, meaning proton daughters are emitted preferentially in the direction of the spin, making the Λ an ideal candidate for the determination of the net spin of the produced particles. Net Λ polarization has been predicted several times - Becattini et. all (arXiv:1304.4427v2 [nucl-th] 10 Jul 2013) recently predicted a maximum polarization of 7-9% via hydro –but it has not yet been observed. We will present preliminary measurements of net Λ polarization from STAR.

Author: UPSAL, Isaac (Ohio State University)

Presenter: UPSAL, Isaac (Ohio State University)