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Elliptic Flow and HBT radii of thermal photons from ideal hydrodynamics EVAN FRODERMANN, The Ohio State University — Ideal hydrodynamics has been successful in describing many characteristics of the fireball created in a heavy ion collision. Through studying the elliptic flow (v_2) of thermally emitted particles and the corresponding Hanbury-Brown Twiss (HBT) radii, we obtain a picture of both the dynamics and geometry of a collision. Typically v_2 and HBT radii are calculated for abundant particles such as charged pions which decouple from the thermal medium at later times. Photons, however, decouple from the medium when they are created, particularly from the early hot QGP stage. We explore the photon elliptic flow and HBT radii for noncentral Au+Au collisions using an ideal hydrodynamical model to describe the collision. We predict a strong change in the pT dependence of the photon elliptical flow as compared to hadronic flow from hydrodynamics. We also present our first results of photon HBT radii from ideal hydrodynamics, in particular the azimuthal oscillations of the HBT radii.

Evan Frodermann
The Ohio State University

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