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Elliptic Flow of Thermal Photons from Hydrodynamics E. FRODERMANN, U. HEINZ, The Ohio State University, R. CHATTERJEE, D. SRIVASTAVA, VECC Kolkata — Anisotropic flow in non-central heavy ion collisions yields valuable constraints on dynamical models used to describe the evolution of the hot dense fireball. The elliptic flow of hadrons has been measured precisely, but hadrons only decouple from the thermal medium late in the evolution. Extracting information from hadrons about the QGP thus involves dynamical models. Photons, on the other hand, decouple from the medium upon creation, carrying information from the full fireball duration, particularly from the hottest early QGP stage. The flow pattern of direct photons should thus help to constrain dynamical models and the QGP equation of state especially during the early expansion stages. We calculate the elliptical flow of thermal photons in Au+Au collisions from a boost-invariant ideal hydrodynamical model. The photon elliptic flow decreases at high p_T in contrast to the hadronic elliptic flow, reflecting the weak collectivity during the early QGP phase. We also point out an interesting structure at low p_T which illuminates the dominating photon production channels in the late hadronic stage.

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