

# Elliptic flow of thermal photons at RHIC, LHC & FCC

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The upcoming Future Circular Collider (FCC) facility at CERN is aimed to study P+P collisions at centre of mass energy 100 TeV, which is about 7 times higher than the top LHC energy for P+P collisions. Heavy-ion collision at FCC (Pb+Pb at  $\sqrt{s_{NN}} = 39\text{TeV}$ ) is expected to produce initial states having much larger initial temperature and energy density than those produced at LHC and RHIC energies. One also expect to have a long lived QGP and larger system volume at FCC. Heavy ion collisions at FCC thus can provide us with much enhanced production of thermal photons and valuable information about the produced system.

We consider an ideal hydrodynamic model with smooth initial density distribution to study the evolution of the system produced at 39A TeV Pb+Pb collisions at FCC. We calculate thermal photon spectra and elliptic flow at FCC and compare those with the results obtained at RHIC and at the LHC energies. We conclude that, calculation of photon anisotropic flow parameters at different centrality bins and at different beam energies would be useful to understand the photon  $v_2$  puzzle.

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