## **Initial Stages 2021**



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## Accessing the initial stages of heavy ion collisions with photons

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We present new results on photon production in heavy ion collisions, including prompt, pre-equilibrium, and thermal photon production from quark gluon plasma and hadron gas phases. We use a model consisting of IP-Glasma initial condition, KoMPoST pre-equilibrium evolution, MUSIC hydrodynamics, and UrQMD transport to both describe hadron production and provide input for the calculation of photon production. We consider photon rates from the pre-hydrodynamic and hydrodynamic stages, and for several channels corrections due to deviations from thermal equilibrium are included for both shear and bulk viscous effects. We present results on the photon azimuthal momentum anisotropy and photon-hadron event plane decorrelation, which have the potential to provide information on the early stages of the collision.

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