Workshop for young scientists with research interests focused on physics at FAIR



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Spectra and flow of thermal and non-thermal photons at FAIR energies

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Photons, as all electromagnetic probes, can give direct access to the hot and dense phase of a heavy-ion reaction. We show calculations of direct photon emission at SiS100- and SiS-300 energies with the UrQMD-hybrid model. UrQMD is a full microscopic+macroscopic transport/fluiddynamics hybrid model with hadron- and string-driven equilibration phase, a full (3+1)-dimensional fluiddynamic hot and dense phase and a hadronic after-burner. Unequilibrated matter at high rapidity is preserved during the fluid phase. A strong emphasis is set on the impact of viscosity and Equation of State at zero and non-zero baryon density to the spectra and flow patterns of thermal and non-thermal photons in A+A-collisions at the colliding systems relevant for FAIR.

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