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The role of the ρ meson in the HADES dilepton mass spectra

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Photons and lepton pairs emerging from decays of virtual photons are the most promising probes of dense hadronic matter. In the energy domain of 1 - 2 GeV per nucleon, HADES has measured electron pairs in C+C, Ar+KCl, p+p, d+p and p+Nb collisions. For the first time the electron pairs were reconstructed from quasi-free n+p sub-reactions by detecting the proton spectator from the deuteron breakup. An experimentally constrained N+N reference spectrum was established. Moreover, for the first time at this energy the inclusive production cross sections for light vector mesons were extracted. This result allows putting tight constraints on vector meson production in heavy-ion collisions at beam energies of a few GeV per nucleon. In this contribution I will compare the HADES data to predictions from UrQMD microscopic transport model calculations and introduce an approach which will allow to separate in a transparent way the generation of the event background from the emission pattern of a physics observable under consideration.

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