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Electromagnetic fields in low-energy heavy-ion collisions with baryon stopping

We investigate the impact of baryon stopping on the temporal evolution of electromagnetic fields in vacuum at low-energy Au+Au collisions with $\sqrt{s_{NN}} = 4$-20 GeV. Baryon stopping is incorporated into the Monte-Carlo Glauber model by employing a parameterized velocity profile of participant nucleons with non-zero deceleration. The presence of these decelerating participants leads to noticeable changes in the centrality and $\sqrt{s_{NN}}$ dependence of electromagnetic fields compared to scenarios with vanishing deceleration. The influence of baryon stopping differs for electric and magnetic fields, also exhibiting variations across their components. We observe slight alteration in the approximate linear dependency of field strengths with $\sqrt{s_{NN}}$ in the presence of deceleration. Additionally, the longitudinal component of the electric field at late times becomes significant in the presence of baryon stopping.

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