



Contribution ID: 163

Type: **Talk**

Coulomb field correction due to virtual e^+e^- production in heavy ion collisions

Monday, 30 August 2021 12:35 (30 minutes)

The correction to the Coulomb energy due to virtual production of e^+e^- pairs, which is on the order of one percent of the Coulomb energy at nuclear scales is discussed. The effects of including a pair-production term in the semi-empirical mass formula and the correction to the Coulomb barrier for a handful of nuclear collisions using the Bass and Coulomb potentials are studied. With an eye toward future work using Constrained Molecular Dynamics (CoMD) model, we also calculate the correction to the Coulomb energy and force between protons after folding with a Gaussian spatial distribution. Currently, we are working to find e^+e^- production rates in ion collisions by solving the Dirac equation coupled to the Coulomb trajectory of two ions. In particular, we are studying the effect of pair production on fusion cross-sections.

Is this abstract from experiment?

No

Name of experiment and experimental site

N/A

Is the speaker for that presentation defined?

Yes

Details

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Internet talk

No

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