

STARS2017 - 4th Caribbean Symposium on Cosmology, Gravitation, Nuclear
and Astroparticle Physics / SMFNS2017 - 5th International Symposium on
Strong Electromagnetic Fields and Neutron Stars

Contribution ID: 90

Type: **Talk**

Color transparency in nuclear matter

Sunday, 7 May 2017 17:00 (30 minutes)

In this contribution, a model to explain color transparency in QCD is discussed. This model focuses on recreating the interaction of color dipole created from the quantum oscillations of the virtual photons of high energies that intervene in the ultra-peripheral collisions as a consequence of its exchange with the vacuum presented in the VDM model. The interaction of the small size configuration with nucleons the nuclear medium are taken into account by the Feynman diagrams associated to the two-gluon exchange approximation and the color saturation model. In this way, one can calculate the interaction cross section between color dipole and the gluon sea of the nucleon. The calculations are focused on the production of charmonium at small x scenario.

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Track Classification: STARS2017