



Contribution ID: 48

Type: Poster

Real-Time-Evolution of Heavy Quarkonium-Bound-States

Monday, 21 May 2018 18:30 (0 minutes)

Elucidating the production process of heavy quark bound states is a central goal in heavy-ion collisions [1]. Two central questions exist: Do bound states of heavy quarks form in the early time evolution of the glasma? If so, in which time regime can that happen? An Answer requires the development of a non-perturbative treatment of the real-time-dynamics of heavy quarkonia.

Here we present preliminary results from a simulation of bottomonium dynamics in the glasma, based on the concept of quenched, classical statistical simulations for the gauge fields [2]. We employ lattice real-time NRQCD to order $1/(aM_q)^2$ to describe the bottomonium evolution [3,4].

By computing the time-evolution of spectral functions of bottomonium-channels we expect to identify the emergence of bound states and their formation time in the evolving glasma.

References

- [1] G. Aarts et al., Eur. Phys. J. A 53 no.5, 93 (2017)
- [2] D. Gelfand, F. Hebenstreit, J. Berges, Phys.Rev. D 93, no.8, 085001 (2016)
- [3] G.P. Lepage et al., Phys.Rev. D 46, 4052 (1992)
- [4] A. L., A. Rothkopf (in preparation)

Primary author: Mr LEHMANN, Alexader (ITP Heidelberg)

Co-author: Dr ROTHKOPF, Alexander (ITP Heidelberg)

Presenter: Mr LEHMANN, Alexader (ITP Heidelberg)

Session Classification: Poster Session