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A Quark-Gluon Plasma inspired model of the universe

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We show that certain ideas developed in the last few years of heavy ion physics research could be used to produce key features of the standard cosmological model, in the context of a beyond the standard model pure gauge theory with a high (\sim TeV) equivalent of the QCD scale.

In particular, the peak in bulk viscosity argued to exist within QCD [1,2] can be used to generate inflation, while glueballs within the same theory are viable dark matter candidates.

We present solutions of the FRW equations for matter with these characteristics, in the hope of establishing whether the right number of e-foldings and dark matter abundance can be generated in such a model.

[1] <https://inspirehep.net/search?p=find+eprint+0805.0442>

[2] <https://inspirehep.net/search?p=find+eprint+0707.4405>

Content type

Theory

Collaboration

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