



Canadian Association
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Contribution ID: 2531 Type: **Poster Competition (Graduate Student) / Compétition affiches (Étudiant(e) 2e ou 3e cycle)**

24 - Einstein-Maxwell-dilaton solution in Bianchi type IX

Tuesday, 4 June 2019 16:51 (2 minutes)

We construct new classes of cosmological solution to the five-dimensional Einstein-Maxwell-dilaton theory that are non-stationary and almost conformally regular everywhere. The base geometry for the solutions is four-dimensional type XI Bianchi geometry.

In the theory, the dilaton field couples to both electromagnetic field and the cosmological constant term with two different coupling constants. We consider all possible solutions with different values of the coupling constants as well as the cosmological constant, as a positive, negative or zero -valued constant.

In the ansatzes for the metric, dilaton and electromagnetic fields, we consider dependence on one time and two spatial directions. We discuss the physical properties of the five-dimensional space-time. We also consider the special case of the Bianchi type IX geometry in which the geometry reduces to that of Eguchi-Hanson space.

Presentation type: poster

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Session Classification: DTP Poster Session & Student Poster Competition Finals (4) | Session d'affiches DPT et finales du concours d'affiches étudiantes (4)

Track Classification: Theoretical Physics / Physique théorique (DTP-DPT)