



Geometry Session

Three-dimensional conformally flat Electrostatic System

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15h20 - 16h

Math Department - SALA B

Abstract.

Einstein Field Equation coupled to Maxwell Fields is called Electrostatic System. Three-dimensional electrostatic manifolds with divergence-free Bach tensor are locally conformally flat, provided that the electric field and the gradient of the lapse function are linearly dependent. Consequently, a three-dimensional electrostatic manifold admits a local warped product structure with a one-dimensional base and a constant curvature surface fiber.

References

- [1] LEANDRO, B; LOUSA, R. *Electrostatic system with divergence-free Bach tensor and non-null cosmological constant*. Forum Mathematicum, 2023.

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