

Reduction of the n -dimensional Einstein-Maxwell Equation and Solution Invariant by Dilations

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Resumo

In this work, we consider the electrostatic system when the spatial factor is conformal to an n -dimensional pseudo-Euclidean space. We provide a complete characterization of the most general ansatz that reduces the resulting system of partial differential equations to a system of ordinary differential equations. Under an additional hypothesis, we show that the only possible configurations correspond to electrovacuum system structures. Finally, as an application of our results, we give a full description of the dilation-invariant solutions.

Referências

- [1] Leandro, B., de Melo, A. P., Menezes, I., and Pina, R., - *Static Einstein-Maxwell space-time invariant by translation*, Gen. Relativity Gravitation 53 (2021), no. 10, Paper No. 92, 21 pp. MR 4328421.

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