Embedding diagrams in stationary spacetimes

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Abstract

We find the spatial and dynamic embedding diagrams in some stationary spacetimes. The spatial embeddings include the NUT, pure NUT and Kerr spacetimes. In the case of pure NUT spacetime, the spatial embedding equations are solved in terms of the elliptic integrals. In other cases we obtain the spatial embedding diagrams by numerical integration of the corresponding embedding equations. These embedding diagrams are then compared by calculating their Gaussian and mean curvatures. We also find the dynamic embedding diagrams of NUT and pure NUT spacetimes.

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