Atlantic General Relativity 2024



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Distorted static black holes with a bubble

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We construct a family of local static, vacuum five-dimensional solutions with two commuting spatial isometries describing a black hole with an S^3 horizon and a 2-cycle 'bubble' in the domain of outer communications. The solutions are obtained by adding distortions to an asymptotically flat seed solution. We show that the conical singularities in the undistorted geometry can be removed by an appropriate choice of distortion.

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