

Scalar self-force on static charge in a long throat

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Abstract

© 2015 World Scientific Publishing Company. We compute the self-force on a scalar charge at rest in the space-time of long throat. We consider arbitrary values of the mass of the scalar field and the constant of nonminimal coupling of the scalar field to the curvature of space-time. We also show the coincidence of explicit calculations of self-force in the limit of large mass of the field with known results.

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Keywords

Self-force, wormhole