ON THE DEPENDENCE OF THE INDUCED VACUUM ENERGY-MOMENTUM TENSOR ON THE COUPLING TO THE CURVATURE SCALAR

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S u m m a r y

Charged scalar field is quantized in the background of a static $(d-2)$-brane which is a core of magnetic flux lines in a flat $(d+1)$-dimensional space-time. We find that the vector potential of a magnetic core induces the energy-momentum tensor in the vacuum. Notwithstanding the flatness of the space-time, the tensor components depend on the coupling to the curvature scalar, and peculiarities of the behaviour at the conformal value of the coupling are revealed.