General Relativity and Quantum Cosmology

Hadamard States for the Vector Potential on Asymptotically Flat Spacetimes

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We develop a quantization scheme for the vector potential on globally hyperbolic spacetimes which realizes it as a locally covariant conformal quantum field theory. This result allows us to employ on a large class of backgrounds, which are asymptotically flat at null infinity, a bulk-to-boundary correspondence procedure in order to identify for the underlying field algebra a distinguished ground state which is of Hadamard form.

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