
GLOBAL HYPERBOLIC PROPAGATORS

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In my talk I will present a global, invariant and explicit construction of hyperbolic propagators on closed Riemannian manifolds. This can be achieved by representing the propagator as a single Fourier integral operator — global both in space and in time — with distinguished complex-valued phase function. The knowledge of the propagator allows one, in turn, to recover asymptotic spectral properties of the operators at hand. The main focus of the talk will be on the wave propagator. Time permitting, I will outline similarities and fundamental differences between scalar equations and first order systems, such as, e.g., the massless Dirac equation and Maxwell's equations.

Based on joint work with D. Vassiliev (UCL) and M. Levitin (Reading).

Keywords: Global Fourier integral operators, hyperbolic propagators, Weyl coefficients.