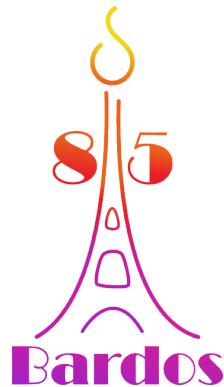


Kinetic equations and turbulence

Error estimates for Gaussian beams in the neighborhood of a fold caustic

Olivier Lafitte

In this talk we consider a model situation where one can express analytically the Gaussian beam solution and the exact solution in a 2d medium with a caustic for the Helmholtz equation, for a given datum on a line. The L^2 estimate was proven in 2014 (Liu, Runborg) at $k^{-\frac{1}{2}}$ and the L^∞ estimate was, strictly away from caustics, at k^{-1} in 2016 (Liu, Runborg). We prove here $k^{-\frac{5}{6}}$ at the caustic thanks to precise analysis of the Airy functions and of oscillatory integrals. (Joint work with Olof Runborg)



In honor of Claude Bardos's 85th birthday