

FROM MOURRE THEORY TO MICROLOCAL PROPAGATION ESTIMATES

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Mourre theory and microlocal propagation estimates (in particular radial estimates) are often seen as competing approaches to resolvent estimates in settings coming from the analysis of PDEs. There are however cases when none of the two methods directly applies, which motivates to take a closer look at how they are actually related. A particularly well-suited class of models to understand what is going on is provided by 0-order pseudodifferential Hamiltonians (arising e.g. in fluid mechanics) on compact manifolds. The aim of this talk will be to sketch a new proof of radial estimates in this context, which parallels known proofs of Mourre theory, but is microlocal. I will then outline some generalizations and their applications.