

# Semiclassical methods for the analysis of reversible and non reversible metastable processes

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In this lecture we will try to explain how tools developed for the analysis of PDEs and quantum physics can be used to obtain quantitative results on metastable processes. The first lecture will give an introduction to semiclassical analysis in the context of Schrödinger operators. In the second lecture we will show how these tools can be used in the spectral analysis of the generator of reversible processes. The third lecture we be devoted to the analysis of non-reversible situations. We will discuss in particular how to prove resolvent estimates which are crucial in non selfadjoint settings.