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## **Mathematical Physics**

# Semiclassical analysis and sensitivity to initial conditions

Thierry Paul (DMA)

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We present several recent results concerning the transition between quantum and classical mechanics, in the situation where the underlying dynamical system has an hyperbolic behaviour. The special role of invariant manifolds will be emphasized, and the long time evolution will show how the quantum non-determinism and the classical chaotic sensitivity to initial conditions can be compared, and in a certain sense overlap.

Subjects: Mathematical Physics (math-ph); Quantum Physics (quant-ph)

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