

Asymptotic Behavior of systems of PDE arising in physics and biology:
theoretical and numerical points of view (ABPDE II)

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A multiscale numerical approach for a class of time-space oscillatory problems

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High oscillations may arise in many physical problems: Schrödinger equations, kinetic equations, or more generally high frequency waves. In this talk, we will present a general strategy that allows the construction of uniformly (with respect to the oscillation frequency) accurate numerical schemes in the following situations:

- i) time oscillations with applications to kinetic and Schrödinger equations.
- ii) time-space oscillations with applications to some high frequency waves and semi-classical quantum models.

Some numerical tests will be presented to illustrate the efficiency of the strategy.

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