

Semi-Classical Analysis and Scattering Theory  
Prof. Ivana Alexandrova

University of Tokyo  
Summer 2009

In this course I will give an introduction to semi-classical analysis and will discuss some of its applications to scattering theory. The topics covered will be among the following:

- Classes of symbols.
- Oscillatory integrals.
- The calculus of semi-classical pseudodifferential operators.
- The FBI transform.
- Fourier integral operators.
- The microlocal structure of the scattering amplitude as a semi-classical Fourier integral operator.

The lectures will be based primarily on the material in the book *An Introduction to Semiclassical and Microlocal Analysis* by André Martinez and the research of the course lecturer.