Reservoir modelling and stochastic analysis

October 31, 2000

The permeability field of an oil reservoir is a rapidly varying function which may be modelled as a random field. In such a context, solving the pressure equation is a *stochastic* problem, where many questions naturally arise. In this talk we shall focus on the following aspects of this problem:

- stochastic modelling of the permeability field,
- stochastic interpretation of the pressure equation when the permeability field is random,
- introduce a stochastic framework for treating the pressure equation mathematically (white noise analysis),
- developing numerical methods for solving the pressure equation.