

Finite Difference Solution to Governing PDE of Oil Reservoirs

A. Malek

*Tarbiat Modarres University,
Tehran, Iran*

Consider a one-phase two dimensional oil reservoir. Combination of the following equations will establish the basic PDE for oil reservoir.

- a) Conservation of mass
- b) Darcy's law
- c) Compressibility at constant temperature

For simplicity we assume that the oil reservoir is a rectangular area. Finite difference method based on discretisation of time and space is given, in order to solve the basic PDE for oil reservoir.