Special Issue

Hydraulic Fracturing Process, Simulation and Modeling in Petroleum Engineering

Message from the Guest Editors

With the depletion of traditional energy sources, low-carbon energy sources (such as shale gas, hot dry rock, coal bed methane, and natural gas hydrate) have gradually drawn global attention. Hydraulic fracturing has been commonly used in reservoir stimulation for oil and gas, as well as for low-carbon energy sources. The key factor that affects the result of hydraulic fracturing is the complexity of the hydraulic fracture, which is significantly affected by geological and engineering parameters. This Special Issue on “Hydraulic Fracturing Process, Simulation and Modeling in Petroleum Engineering” aims to cover recent advances in the development and application of hydraulic fracturing. Topics include, but are not limited to, methods and/or applications in the following areas:

- Models in hydraulic fracturing;
- Experimental investigation;
- Numerical simulation;
- Mechanism of hydraulic fracture propagation;
- The intersection mechanism between hydraulic fracture and natural discontinuities;
- The exploitation of low-carbon energy (shale gas; hot dry rock; coal bed methane; natural gas hydrate);
- Field operation of hydraulic fracturing in petroleum engineering.

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