

BETSTOFRAC

项目名称: Environmentally best practices and optimization in hydraulic fracturing for shale gas/oil development

MSCA-RISE-2016 Research and Innovation Staff Exchange Project ID 734370

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项目简介 (Abstract)

This project aims to bring together the complementary expertise of research groups to gain a better understanding of the physics in hydraulic fracturing (HF) with the final goal to optimize HF practices and to assess the environmental risks related to HF. This requires the development and implementation of reliable computational models of HF and laboratory experiments to validate these models. Through parameteric studies, these models will finally be exploited in order to answer some urgent questions regarding HF practices.

The final objective is to employ these models in order to answer some pressing questions related to environmental risks of HF practices, including:

1. How does HF interact with the natural fractures that intersect the shale seam?
2. How does the fracture network from a previous stage of HF treatment affect the fracture network evolution in succeeding, adjacent stages?
3. What are the requirements to constrain fractures from propagating to the adjacent layers of confining rock? The exchange and training objectives are to:
 4. Enhance the intersect oral and interdisciplinary training of ERs and ESRs in Computational Science, Mining Geotechnics, Geomechanics, Modeling and Simulation
 5. Strengthen, quantitatively and qualitatively, the human potential in research and technology in Europe
 6. Advance the scientific contribution of women researchers in this area dominated by male
 7. Create synergies with other EU projects
 8. Enable and support all ESRs/ERs to keep contact with international community in the sense of training and transfer of knowledge