Complex fluid and proppant placement in the hydraulic fracturing of oil and gas wells

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Abstract: The ultimate goal of a hydraulic fracturing (HF) treatment is to create a highly conductive pathway between the reservoir and the well. In order to do so, propping agents (e.g. sand) are mixed to the fracturing fluid such that after the end of pumping, as the fracture closes, it remains opened by the proppant. In this talk, we will review the basics of proppant transport in a fracture accounting for the different type of fracturing fluid used in practice. I will notably emphasize the impact of fluid rheology and proppant placement on the success of a HF treatment.