



Contribution ID: 427

Type: **Poster (+) Presentation**

Stability and performance of emulsion in bulk-scale and pore-Scale

Wednesday, 2 June 2021 09:00 (1 hour)

Understanding emulsions' behaviour is essential for many industrial applications such as environmental remediation, Enhanced Oil Recovery (EOR), and food processing. Although several experimental studies have been previously performed to study emulsion behaviour, fewer of them have specifically addressed the correlation between emulsion behaviour in bulk-scale to pore-scale. Firstly, we tried different methods presented in the literature for making emulsions. Our findings suggest all the methods are not successful in making emulsions, and there is a specific shear rate needed to be passed for making emulsions. Then, we performed bottle test experiments to find the optimum salinity for making stable emulsion. The rheology of emulsion at bulk-scale was measured using Anton Paar Rheometer and the results compared with the rheology obtained in pore-scale using micro-models. Also, in-situ emulsion generation inside the porous media practised, and the results presented. In the end, we simulated this process and the results compared with the experimental data.

Time Block Preference

Time Block A (09:00-12:00 CET)

References

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Student Poster Award

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