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EFFECT OF THE SPREADING COEFFICIENT ON GAS/OIL CAPILLARY PRESSURE CURVES IN PRESENCE OF CONNATE WATER

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Abstract. This paper presents measurements of gas/oil capillary pressure curves in the presence of connate water by a centrifuge method for both positive and negative spreading coefficients. Comparison between these two cases shows two effects:

1. The residual oil saturation is found to be higher in the case of a negative spreading coefficient than in the case of a positive one,
2. Except for low oil saturation values, the capillary pressure is found to be higher in the case of a positive spreading coefficient than in the case of a negative one.

An interpretation is given based on experiments performed in network models. It leads to recommendations for performing adequate laboratory tests.