

## عنوان مقاله:

A Novel Technique for Determination of the Onset of Alkane Induced Asphaltene Precipitation Using Accurate Density Measurements

## محل انتشار:

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## نویسندگان:

Mahdi Kalantari Meybodi - *M.S. Student, Department of Petroleum Engineering, Petroleum University of Technology, Ahwaz, Iran*

Jamshid Moghadasi - *Associate Professor, Department of Petroleum Engineering, Petroleum University of Technology, Ahwaz, Iran*

## خلاصه مقاله:

Onset of asphaltene precipitation is the key parameter in dealing with asphaltene problems because it is the starting point of the asphaltene separation from the solution. In this study, a new technique is provided based on the experimental observations for the determination of the onset of asphaltene precipitation using accurate density measurements of the crude oils upon titration with precipitating agents like n-alkanes. Moreover, density measurements have been conducted for three different crude oils diluted with different ratios of precipitating agents, i.e. n-pentane, n-hexane, and n-heptane. The experimental results confirmed that, as it was expected, the density showed a decreasing trend as the dilution ratio increased, except at one point, at which the density increased with raising dilution ratio; this corresponded to the onset of asphaltene precipitation. For all the crude oils used, a sample diluted with a non-precipitating solvent (toluene) was also used as a reference system, its densities were measured upon titration with toluene, and the results were used for comparison with the other systems diluted with precipitating solvents. The measured onsets of asphaltene precipitation using this technique were confirmed with the onsets obtained by using interfacial tension approach.

## کلمات کلیدی:

Onset of Asphaltene Precipitation, Density, Asphaltene, Precipitant, Dilution

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