

Identification of appropriate models for catalytic Hydro-desulphurisation

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Hydro-desulphurisation is an important process in the petroleum industry for the removal of sulphur from different fractions of crude oil. However, in the literature there are large numbers of different models for describing these reaction systems. The situation is more complex due to the number of different sulphur compounds present and uncertainty with respect to the reaction mechanisms. Hence, this study looks at ways in which the different models can be discriminated so that the most appropriate models can be identified for use in process design and optimization. This approach is applied to a Hydro-desulphurisation case study to highlight the most beneficial existing models and additional experiments which could be carried out to test improve model accuracy for the purpose of sulphur removal.