SIMULATION AND MODELING OF HYDRO CRACKING REACTR TO REDUCE POLLUTION CAUSED BY REFINERIES

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Abstract

Hydro cracking of heavy oil is used in refinery to produce invaluable products. In this research, a model of hydro cracking reactor has been used to study the behavior of heavy oil in hydro cracking under the conditions recommended by literature in terms lumping of feed and products. The lumping scheme is based on five lumps include: heavy oil, vacuum oil, distillates, naphtha and gases. The first order kinetics was assumed for the conversion in the model and the system is modeled as an isothermal tubular reactor. MATLAB 6.1 was used to solve the model for a five lump scheme for different values of feed velocity, and temperature.