



ENERGY DISSIPATION REDUCTION USING SIMILARLY-CHARGED POLYMER-SURFACTANT COMPLEX

**Hayder A. Abdulbari, Emsalam Faraj, Jolius Gimbun and
Wafaa K. Mahmood**

Center of Excellence for Advanced Research in Fluid Flow
University Malaysia Pahang
Gambang, 26300, Kuantan, Pahang
Malaysia

e-mail: abhayder@ump.edu.my
emsalemfrg@yahoo.com
jolius@ump.edu.my
wafaakm2005@yahoo.com

Abstract

Transporting viscous liquids in pipelines is considered as one of the most energy consuming sectors in the industry due to the turbulent flow mode associated. High molecular weight polymers are effective drag reduction agents for enhancing liquid flow through pipelines, but they typically break apart (mechanical degradation) when subjected to high shear forces. Introducing a surfactant to the polymer to form a polymer-surfactant complex is a known technique to minimize the mechanical degradation. However, most available polymer-surfactant complexes formed of oppositely charged additives tend to exhibit low drag reduction performance. In the present study, we chose a different approach by investigating the drag reduction performance and

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