466f Performance of Surface Feed with Pbtu and Varying Reaction Kinetics

Dwight Hirschfield, Sujit Bhattacharya, and Suzanne Kresta

The importance of feeding to a zone of high turbulence to minimize by-product formation is a classical problem of mixing sensitive reactions. Previous work has shown that by using an up-pumping impeller at the surface of the tank, the by-product formation can be minimized to match the performance of sub-surface feed. Initial work with the third Bourne reaction is combined with new work on the iodide-iodate reaction, and rms velocity measurements at the surface to quantify the Damkohler number. This allows us to quantify the effectiveness of the uppumping configuration for a range of reaction kinetics, and to define the key design variables.