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Thesis Title : Study on Kinetic Models of The Heterogeneous Alkaline Pulping of Oil Palm Frond
Major Field : Chemical Engineering
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Abstract

Sodium hydroxide-anthraquinone (soda-AQ) delignification pulping of oil palm frond was conducted with pulping conditions as follow: 35-45% NaOH charged, 14 : 1 liquor-to-wood ratio, temperature of 155-165°C, time at maximum temperature 60-300 minutes and 0.1% anthraquinone. The chemical properties of the obtained pulp were investigated by using TAPPI standard methods. The effects of all process conditions were combined using the developed kinetic model, based on the power law of growth and Avrami's concepts in nuclei growth.

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Keywords : Soda-antraquinone, Oil palm fronds, Kinetic Models

Advisor