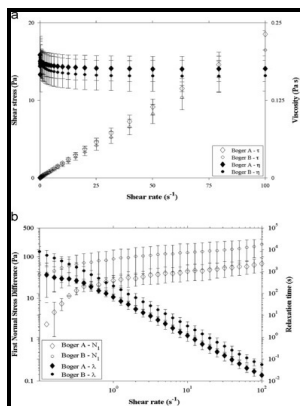


Circulation time studies in newtonian and non-newtonian fluids in stirred tanks

University of Birmingham - Drop breakage in stirred tanks with Newtonian and non



Description: -

-Circulation time studies in newtonian and non-newtonian fluids in stirred tanks

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Numerical Study of Mixing of Different Newtonian and Non

URLs from City Research Online may be freely distributed and linked to. Distribution of the turbulence kinetic energy below the impeller for a power number 2.3 and 0.2 for a Newtonian fluid b 0.2 CMC solution.

Comparative PIV and LDA studies of Newtonian and non

Drop size distributions were measured in agitated non-Newtonian fluid systems using a 0.

Sandro Longo

In general, mixing processes are very complex as the flow is three-dimensional, often turbulent, multi-phase and the fluids are non-Newtonian. Item Type: Thesis PhD Uncontrolled Keywords: Mixing, Rushton turbine, Helical ribbon impeller, Shear thinning fluids, Newtonian fluid, Flow number, Power number, Power constant, Entropy generation minimization, Impeller geometry constant, mixing time, Residence time distribution. The laser Doppler velocimeter was operated in the dual-beam forward scatter mode with a 40 mW helium-neon laser.

Heat transfer and power consumption of Newtonian and non

PIV provides information about instantaneous velocity field in a selected plane by imaging the scattering of laser light from the tracer particles added into the fluid. Also, the understanding of residence time distribution RTD study in a stirred tank system gives an idea on the distribution of flow structure. Physical investigations have been carried out to characterize the power consumption and the mixing time in a vessel equipped with a Maxblend ® impeller Sumitomo Mechanical Equipment, Japan.

Comparative PIV and LDA studies of Newtonian and non

The non-dimensional mixing times were varied in scattered way with impeller Reynolds number, and the dispersive flow away from the impeller shaft was observed. Both the tank wall and baffles were made of Plexiglass to allow optical access from the sidewall. ARTEMIS software was

separately applied to estimate the effect of refraction.

Comparative PIV and LDA studies of Newtonian and non

In the presented maps a small area was found marked with a frame which could give wrong information about generated velocity field, and consequently about shear rate field.

Heat transfer and power consumption of Newtonian and non

This paper presents a model for the laminar propagation of gravity currents of rheologically complex fluids over natural slopes. Flow characteristics of Newtonian and non-Newtonian fluids in a vessel stirred by a 60° pitched blade impeller. Topographic control was introduced considering flows in porous channels of different shapes.

Flow characteristics of Newtonian and non

Based on the literature Jaworski and correlation , for the tested CMC solution, a value of 0.

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