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Rheological aspects of C. elegans suspensions under oscillatory shear[1] SARA MALVAR, BRUNO S. CARMO, Universidade de Sao Paulo, FRANCISCO R. CUNHA, Universidade de Brasilia — The rheological nature of an active suspension of nematodes is discussed. The nematode chosen for the study is Caenorhabditis elegans and its motion is subjected to the time reversibility of creeping flows. We investigate how the movement of the nematodes under different volumetric fractions alter the fluid rheological characteristics, considering collective behavior. We provide a deep discussion based on the experimental data obtained through a rotating disk rheometer. Oscillatory shear and step strain tests were conducted in order to present a discussion regarding zero shear viscosity and relaxation time for different nematodes concentrations. Moreover, theassociated time scales coupling provide a good physical comprehension of active suspensions.

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