3C3

08 - 04 THE SIMULATION OF INTERACTING LIQUID-LIQUID DISPERSIONS - A NEW ALGORITHM AND ITS POTENTIALITY

M.M.L.Guimarães("), J.J.C.Cruz-Pinto(*), P.F.R.Regueiras(&) and C.M.N.Madureira(&) - (") ISEP, 4200-PORTO, (*) CQPA (INIC) /U.MINHO, 4700-BRAGA, (&) FEUP/U.PORTO, 4000-PORTO (PORTUGAL)

The simulation of interacting liquid-liquid dispersions undergoing mass transfer and/or chemical reactions is a major chemical engineering problem, that has not yet been satisfactorily solved. The difficulties do not exclusively lie on the experimental validation of the models and their predictions, but are still rooted on the inability of current algorithms to describe the real nature of the dispersion, namely its full trivariate structure - distribution of drop volumes (v), ages (τ) and solute concentrations (c) - where v, τ and c are not satistically independent. A survey is given of the authors'latest, recently published [1,2], work and a detailed discussion is then presented of the fine structure and behaviour of the dispersion; the major requirement of an adequate statistical analysis of the simulation results is also dealt with. The paper ends with the authors'views on possible trends of future research on this topic. (1) **Comput. Chem. Engng.**, **12** (11), 1075 (1988); (2) **ibidem**, accepted (1989).