

MICROGRAVITY SCIENCES AND PROCESSES SYMPOSIUM (A2)
Microgravity Experiments from Sub-orbital to Orbital Platforms (3)

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DSC EXPERIMENT ON SODI FACILITY- ISS: IS THERE A LOGIC IN MULTICOMPONENT
DIFFUSION ?

Abstract

Diffusion in a mixture with n components is described by $n(n-1)/2$ interdiffusion coefficients at best. It is hopeless that any progress could be reached in including actual diffusion data on truly multicomponent studies (as sea water, crude oils reservoirs, multicomponent chemical engineering, ...) unless: 1) some simplifying evaluations of the diffusion coefficients can be performed, 2) the evaluations follow some simplified rules.

It is the scope of the DSC experiment (Diffusion and Soret Coefficients) that studies on the overall composition range a ternary hydrocarbon mixture of non similar components to start such a process.

Presumed laws are to be verified and the binary data obtained in ground conditions complemented by the fine measurements obtained in microgravity conditions on ternary solutions.

The experiment is described and the expected outcomes detailed