

C. Pöschl, université de Klengfurt

Exact Calculation of Buoyancy Numbers

We discuss a fluid mechanical problem of identifying the limiting buoyancy parameter at which the solid is not moving in a fluid.

This problem is reduced to an eigenvalue problem, where in several geometries we obtain analytical solutions by simple one dimensional reasoning, from old results from fluid mechanics of viscoplastic fluids, and novel results from total

variation image processing, which can be used analogously for this fluid mechanical problem.