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Application of smoothed particle hydrodynamics method in aerodynamics MIGUEL CORTINA, University of Texas at San Antonio — Smoothed Particle Hydrodynamics (SPH) is a meshless Lagrangian method in which the domain is represented by particles. Each particle is assigned properties such as mass, pressure, density, temperature, and velocity. These properties are then evaluated at the particle positions using a smoothing kernel that integrates over the values of the surrounding particles. In the present study the SPH method is first used to obtain numerical solutions for fluid flows over a cylinder and then we are going to apply the same principle over an airfoil obstacle.

Miguel Cortina
University of Texas at San Antonio

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