Master–Thesis

Department of Fluid Mechanics (PfS)
Institute of Mechanics

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Remeshing Methods for Complex Fluid-Structure-Interactions

Fluid-**Structure**-**Interactions** between flexible structures and turbulent flows are simulated at the PfS lab using modern computational methods. During FSI simulations the structure and consequently the computational domain deforms. This domain is discretized by a grid, which has to be adapted by appropriate remeshing algorithms. Presently, a simple linear remeshing method is used that provides satisfactory results for simple geometries. However, it leads to problems with more complex bodies.

As a part of this master–thesis the student has to **improve and extend the remeshing method** present in our CFD program. This work is a good starting point to get insight into **modern multi-physics simulations**.
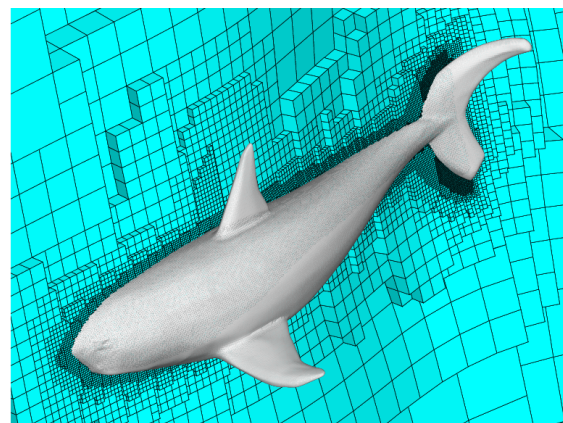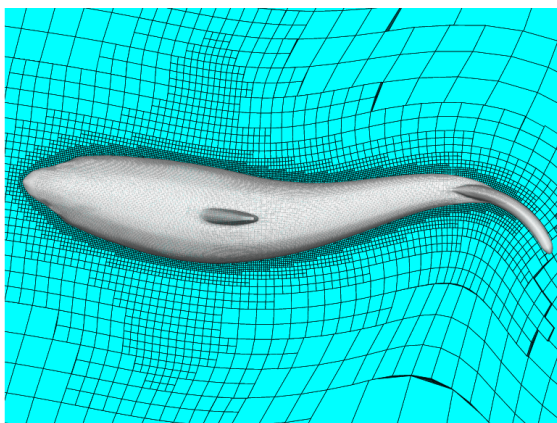
Deformed grid around a realistic model of a shark.

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Begin: immediately