ABSTRACT

This report aims to describe the calculation of laminar flow field around a simple hull-like geometry of a ship using the software Ansys and OpenFOAM.

PROBLEM STATEMENT

For a **laminar flow**, analyse the fluid (here, sea water) around the hull geometry. Use suitable laminar model. Calculate the drag force and drag coefficients.

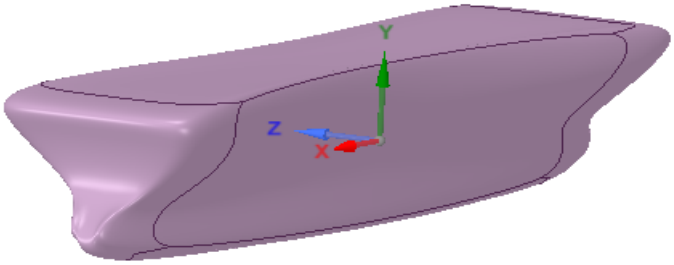

figure 1*

Following initial conditions are assumed to solve the problem:

Fluid flow(water) = 20 knots, 10.2889 m/s Laminar flow

Total Surface area of the hull = 62.1646 m^2

Total Volume of the hull = 19.5232 m^3

Density of sea water = 1029 kg/m3

**Figure 1 created using Autodesk FUSION 360*