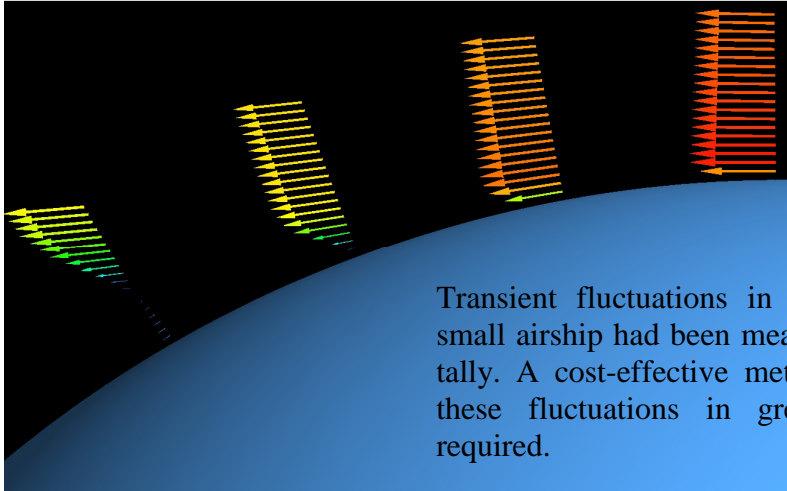




Analysis of Boundary Layer Separation



Transient fluctuations in drag force on a small airship had been measured experimentally. A cost-effective method of exploring these fluctuations in greater detail was required.

CFD (Computational Fluid Dynamics) modelling was proposed to create a fully transient simulation of the airship. Optimised meshing with advanced turbulence modelling was used to simulate the boundary layer flow and separation. The CFD results were validated against the experimental measurements. The virtual simulation indicated fluctuations in the position of separation were present, giving rise to variation in the measured drag force.

CFD offered a mechanism for cost-effective and detailed exploration of flow conditions on a micro and macro scale.



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