

CFD: A powerful virtual laboratory for fluid dynamics

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Computational Fluid Dynamics (CFD) serves as a powerful virtual laboratory for simulating and analysing complex fluid flow phenomena. By discretising the equations of fluid motion, CFD enables researchers, physicists, and engineers to model fluid behaviour in various areas such as astrophysics, nuclear physics, plasma physics, atmospheric physics and more. The talk will give an overview of this tool, which provides deep insights into fluid dynamics, allowing for virtual experiments and design optimisations without the costs of physical experiments. CFD is essential for understanding, predicting, and controlling fluid flows through flow field visualisation and data extraction.

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