

Introduction to Flow Visualization

Fluid motion can be made visible through several techniques. Some require the addition of tracer, either dye or particles, and others rely on existing properties of the fluid, *e.g.* density gradients or opaque condensate (clouds). Flow visualization can provide a quick, qualitative assessment of a new flow field, guiding initial concepts and the design of more detailed experiments. Some visualization techniques also provide detailed quantitative information. Flow visualization has the advantage of describing the entire flow field, unlike many velocity probes that provide information at only one point or along one line. For unsteady flows in particular, visualization can render details of the flow field far more quickly than a compilation of point-by-point measurements. Often the most effective scheme is to use flow visualization to describe the general characteristics of the field, and then to use select point measurements to provide detail. Some common techniques of flow visualization are introduced below. Examples of each technique are provided as web links.

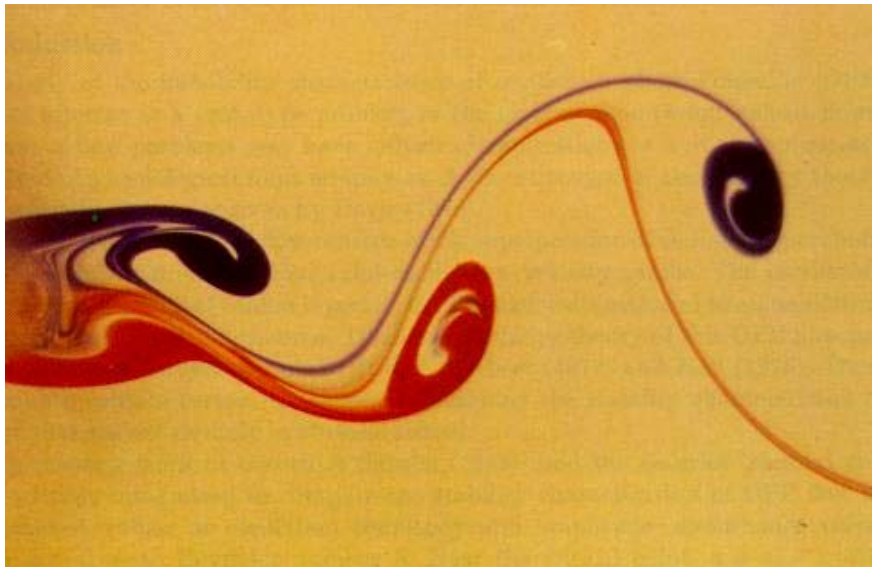


Image from <http://www.eng.nus.edu.sg/mpelimtt/Karman1.JPG>