

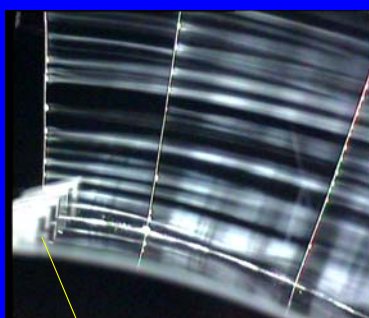
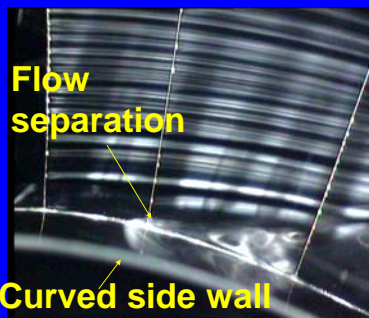
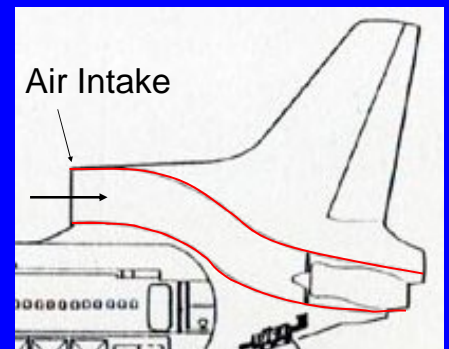
# Flow in an S-shaped Air Intake Duct

**Objective:** To investigate and implement flow control strategies to manipulate flow separation in a S-shaped air intake duct.

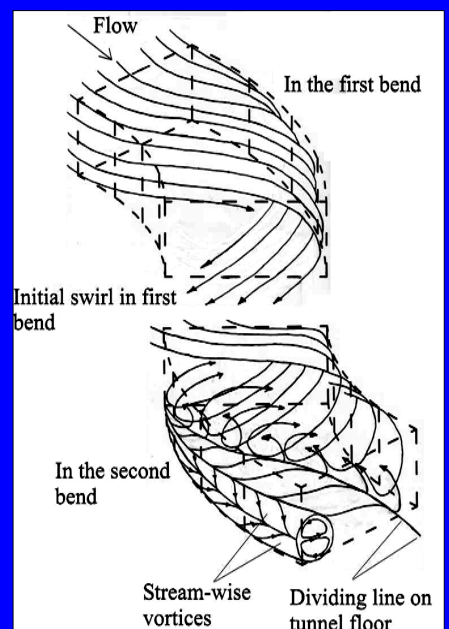
**Relevance:** Air intake duct of jet aircrafts and ventilation ducts.

*Highly curved ducts are prone to flow separation which leads to reduced aerodynamic performance and a non-uniform flow at the engine compressor face.*

*An in-depth study of such flows is undertaken to understand the aerodynamic performance of S-shaped ducts and improve its performance using flow control devices.*



**Smoke flow visualization, showing the application flow control devices to suppress flow separation.**



**Swirling flow in an S-shaped duct**

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