SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A+' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF AEROSPACE ENGINEERING

23AST206 – AERODYNAMICS

II YEAR IV SEM

UNIT 2 – INCOMPRESSIBLE AND INVISCID FLOWS

TOPIC – DOUBLETS AND VORTEX FLOWS

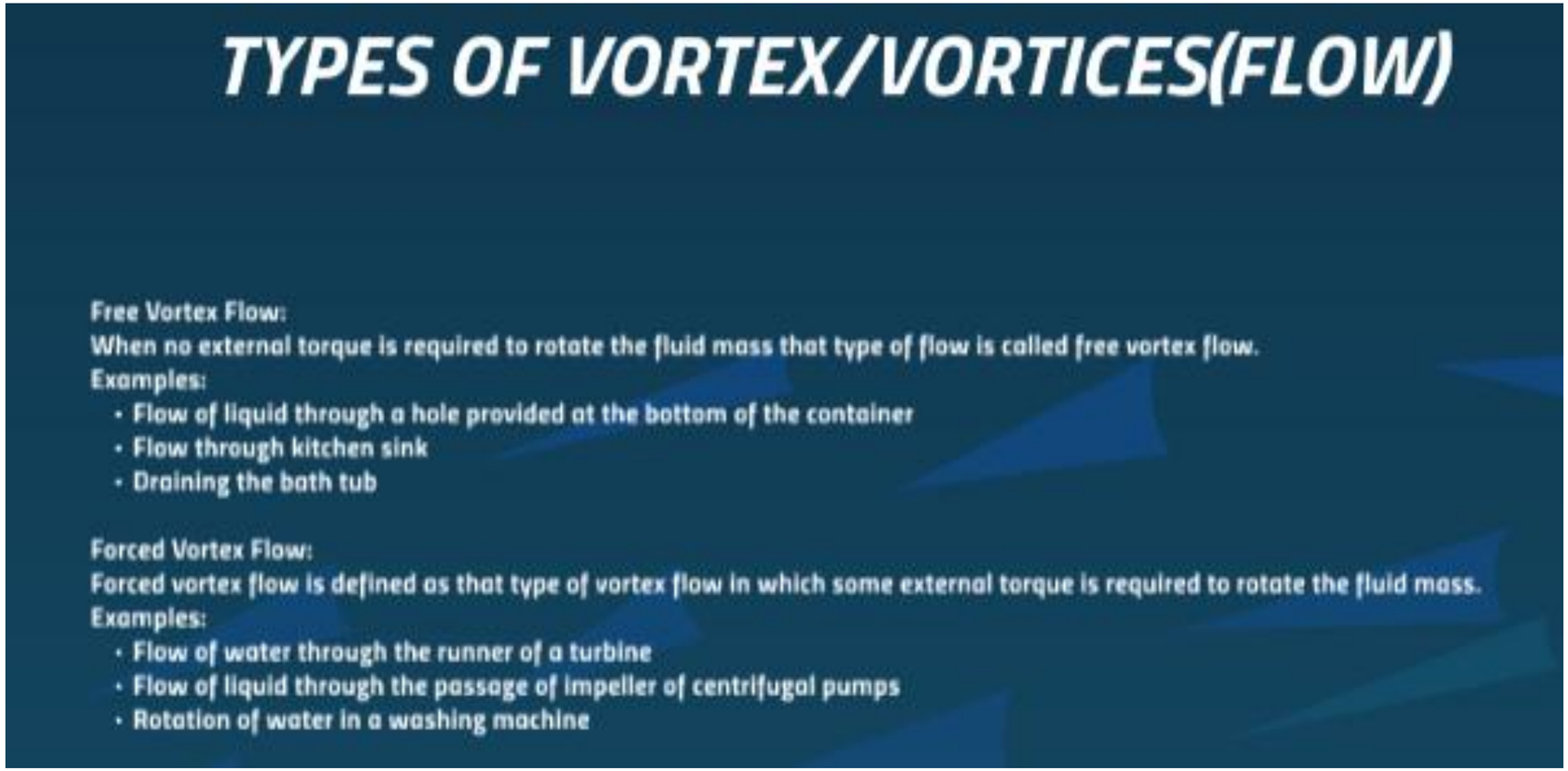
DOUBLETS AND VORTEX FLOWS

WHAT IS A VORTEX ?

In fluid dynamics, a vortex is a region in a fluid in which the flow rotates around an axis line, which may be straight or curved. The plural of vortex is either vortices or vortexes. Vortices form in stirred fluids, and may be observed in phenomena such as smoke rings, whirlpools in the wake of boat.

In most vortices, the fluid flow velocity is greatest next to its axis and decreases in inverse proportion to the distance from the axis. Vortex can be either laminar or turbulent, whereas turbulence gives rise to only turbulent vortices.

DOUBLETS AND VORTEX FLOWS



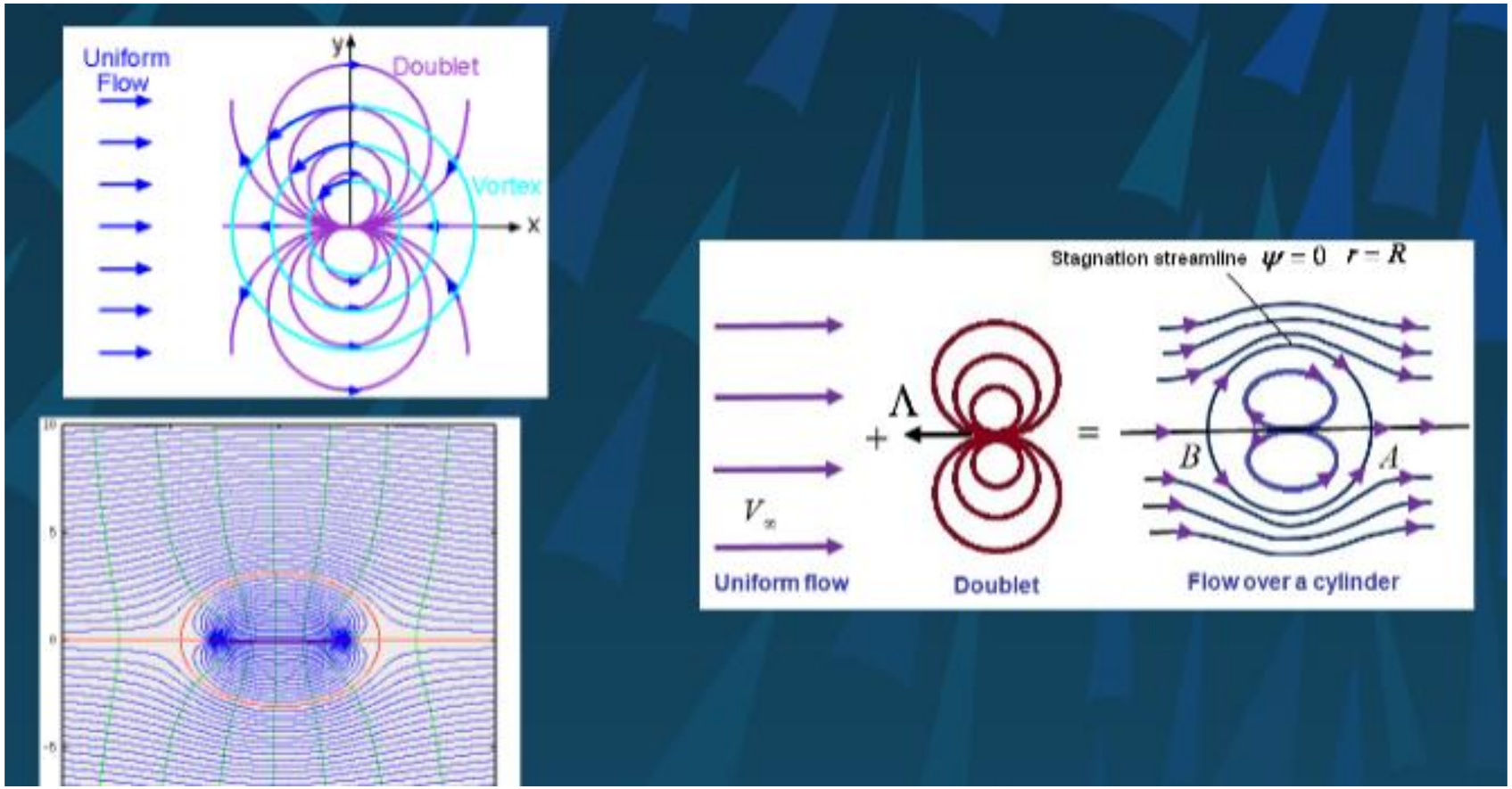
DOUBLETS AND VORTEX FLOWS

WHAT IS A DOUBLET ?

A doublet can be thought of as a combination of a source and a sink of equal strengths kept at an infinitesimally small distance apart. Thus the streamlines can be seen to start and end at the same point.

The concept of a doublet is very similar to that of electric dipoles and magnetic dipoles in electrodynamics.

DOUBLETS AND VORTEX FLOWS



Thank You