BRIEF OVERVIEW OF NAVIER-STOKES EQUATION

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CROSS BORDER COOPERATION
Romania-Serbia
Common borders. Common solutions.

HISTORICAL NOTES

Claude Navier,
1785-1836

George Stokes,
1819-1903

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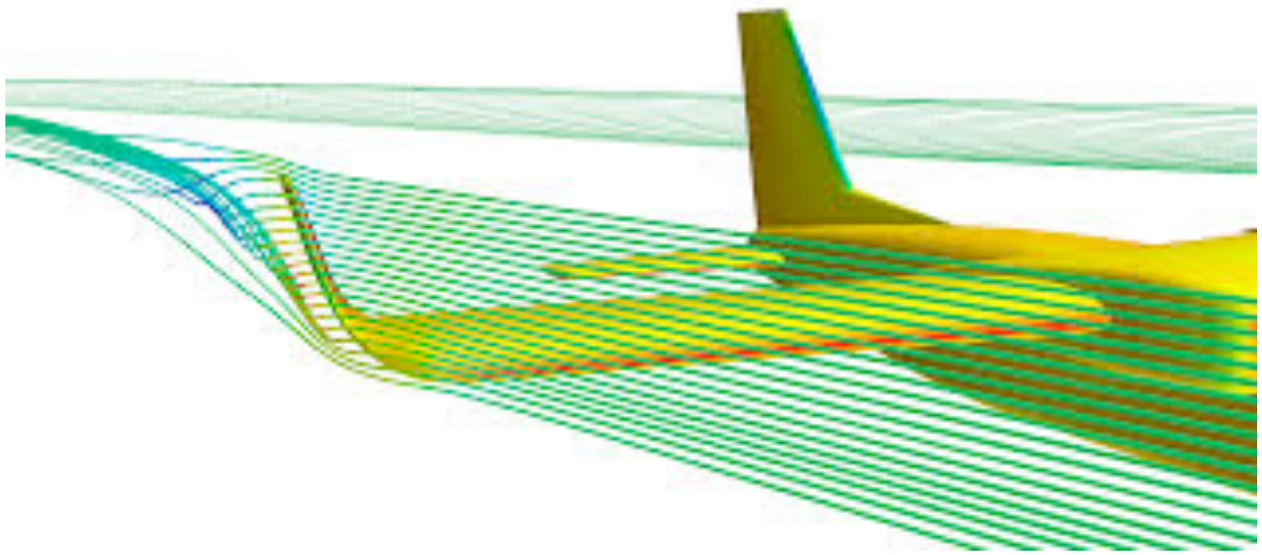
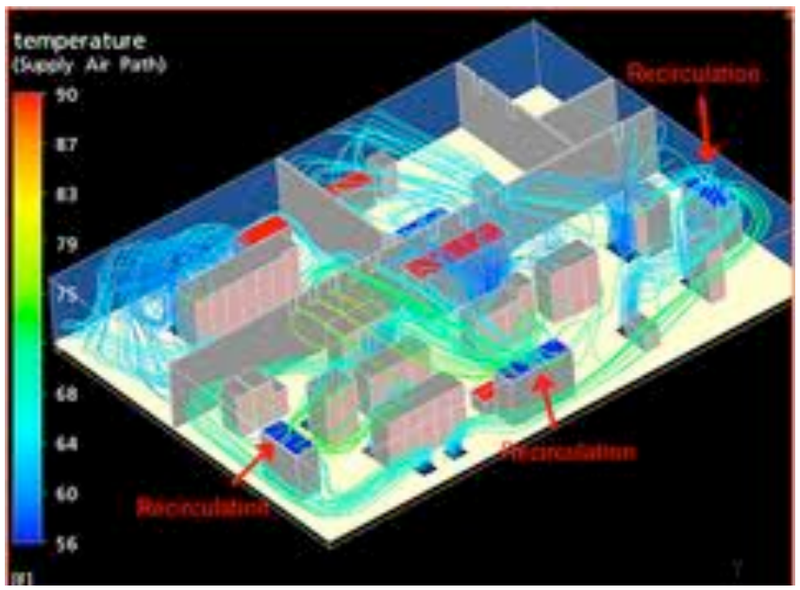
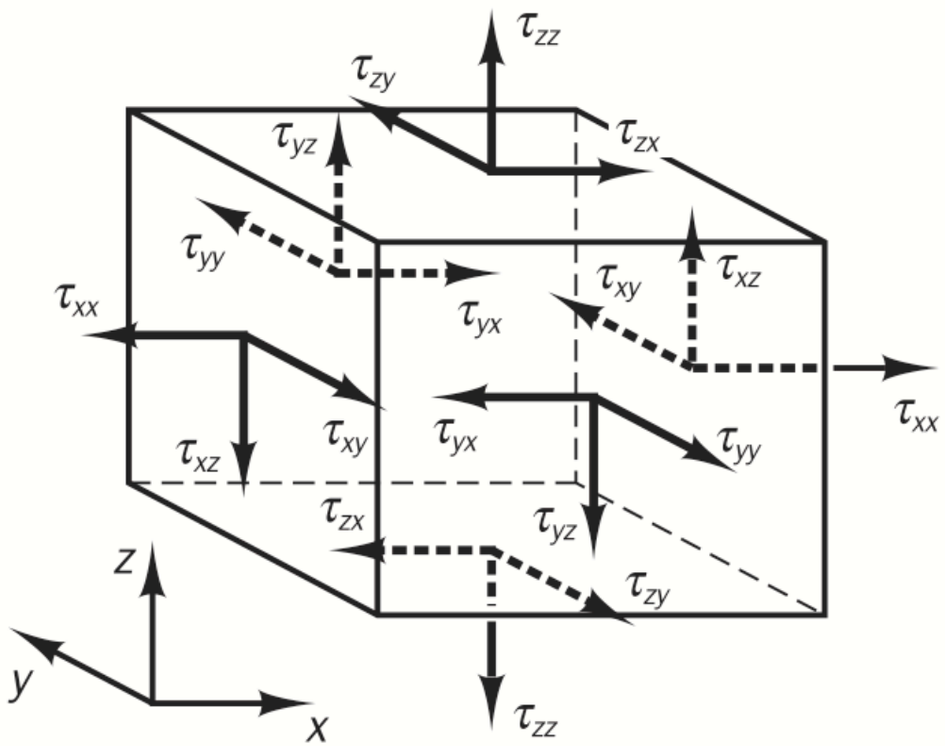
USAGE





MOMENTUM EQUATION



$$\rho\frac{Du}{Dt} = \frac{\partial(-p+\tau_{xx})}{\partial x} + \frac{\partial\tau_{yx}}{\partial y} + \frac{\partial\tau_{zx}}{\partial z} + S_{Mx}$$

$$\rho\frac{Dv}{Dt} = \frac{\partial\tau_{xy}}{\partial x} + \frac{\partial(-p+\tau_{yy})}{\partial y} + \frac{\partial\tau_{zy}}{\partial z} + S_{My}$$

$$\rho\frac{Dw}{Dt} = \frac{\partial\tau_{xz}}{\partial x} + \frac{\partial\tau_{yz}}{\partial y} + \frac{\partial(-p+\tau_{zz})}{\partial z} + S_{Mz}$$

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NAVIER-STOKES EQUATION

$$\rho\frac{Du}{Dt} = -\frac{\partial p}{\partial x} + \operatorname{div}(\mu \operatorname{grad} u) + S_{Mx}$$

$$\rho\frac{Dv}{Dt} = -\frac{\partial p}{\partial y} + \operatorname{div}(\mu \operatorname{grad} v) + S_{My}$$

$$\rho\frac{Dw}{Dt} = -\frac{\partial p}{\partial z} + \operatorname{div}(\mu \operatorname{grad} w) + S_{Mz}$$

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END NOTES

Turbulence

Finite element method

EUROPEAN UNION

GOVERNMENT OF ROMANIA

SERBIAN GOVERNMENT

Structural Funds
2007-2013

ENVIROBANAT
Common History, Common Future

CROSS
BORDER
COOPERATION
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