

## Experiments to study flow past a low-rise building

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It is a known fact that high suction pressures that develops along the leading edges of the building due to the formation of corner vortices, when the wind is incident at oblique angles. These high suction pressures can damage the roof surface which may result in total failure of the building. This paper gives the results from experiments carried out on 1:100 scale models of Texas Tech University Test Building in a wind tunnel under different flow conditions for low rise buildings only. Both sharp-edged models and round edged models were used to conduct flow experiments. The results from flow visualization experiments reveal that there exists a separation and recirculation region on rooftop at normal incidence and corner vortices which are formed at oblique incidence. Different magnitude of rounding the roof edges which influences the flow differently.

### Biography

M. Mahmood has completed his Ph.D. in the year 2001 from school of Aerospace, Mechanical Engineering University of Sydney, Australia. Presently he is faculty member in Department of Mechanical Engineering, University of Petroleum and Minerals (K.F.U.P.M.) Dhahran, Saudi Arabia. He has published more than 25 conference and journal papers in the field of aerodynamics related to separate flow past flat plates, delta wings, elliptical cones and flow past low rise buildings.

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