

## Article Abstract

<b>Title:</b>	Numerical prediction of wind loads on low buildings
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<b>Abstract:</b>	In the present study, 2-D numerical simulation of wind loads on low-rise buildings has been carried out. The simulation was carried out under FLUENT package environment in which full-scale Reynolds number, boundary layer and turbulence properties have been simulated. Wind loading effect numerically obtained on flat roof (TTU building) and pitched roof is compared with wind tunnel data. It was found that there is fair agreement between the numerical predictions and measurements for time-averaged wind loads on buildings. The computed pressure coefficients have been validated with wind tunnel TTU building model results on 1:100 scale within an average error of 20%. The effect of roof pitch for 10°, 20° & 30° on pressure coefficients for gable roof has also been investigated and the results were compared with the available wind tunnel results for 15°, 26° & 35° roof pitch. The present study shows that the numerical simulation of wind loads hold a great potential for extending codes of practice for wind loads.
<b>Keywords:</b>	low-rise buildings, wind loads, numerical simulation, gable roof, TTU building.