矩斷面高層建築在大氣邊界層之風力特性研究

A wind tunnel experimental study was conducted to investigates aerodynamics characteristics of high-rise buildings with rectangular cross-section in natural atmospheric boundary layers. The depth-to- width, height-to- width ratio of building and boundary layer characteristics were chose to be the control parameters in the wind tunnel experiment. The major objectives of this study are to investigate the effects of these parameters on the wind force coefficients and wind force spectral characteristics. The results show the most important factors of wind force on the high-rise building is the occurrence of reattachment of the separated free shear layers. The depth-to-width ratio of building dominants the reattachment phenomenon, so it has the greatest influence on wind force characteristics. The height-to-width ratio and natures of boundary layer have some effects on the characteristics of turbulence, therefore, may cast significant influence on wind force.