عنوان مقاله:

MEAN FLOW AND TURBULENCE MEASUREMENTS IN BOUNDARY LAYERFLOWS OVER ROUGH SURFACES

محل انتشار:

کنفرانس بین المللی کاربرد های مهندسی مکانیک (سال: 1371)

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خلاصه مقاله:

Experimental measurements of profiles of mean velocity and Reynolds stress components, and distributions of boundary layer thickness and skin friction coefficient from aerodynamically smooth, transitionally rough, and fully rough turbulent boundary layer flows are presented for four surfaces - three rough and one smooth. The rough surfaces are composed of ۱.۲۷ mm diameter hemispheres spaced in staggered arrays ۲, ۴, and ۱۰ base diameters apart, respectively, on otherwise smooth walls. The reported data are for zero pressure gradient incompressible turbulent boundary layer air flows which give x-Reynolds numbers up to ۹,۰۰۰,۰۰۰. The smooth wall results form the baseline data for comparisons and discussions on the characteristics of rough-wall turbulent boundary layer flows. The rough-wall data are compared with previously published results on another, similar rough surface, and it is shown that some previous conclusions about the characteristics of rough-wall turbulent boundary layer flows based on data .from that single rough surface do not extend to these new surface geometries

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا: