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WIND TUNNEL DATA ANALYZING BY JAVAD SOFTWARE

Abstract

The inquiry will be examined would be how we can shorten post-processing time from some months to some minutes for wind tunnel experimental tests mainly unsteady aerodynamics. As a result, a two dimensional traveling salesman problem (tsp) code has been developed for modeling the body. The tsp model can distinguish geometry of body even if all transducers are located completely irregularly. For complex configurations, this tsp approach is more efficient because the tsp approach would require just transducers coordinates for accurate estimates of geometry position. In addition, this code can calculate number of oscillations. In the subsequent stage, it outputs aerodynamic characteristics which include lift force, drag force, pitch moment and center of pressure versus angle of attack and also pressure coefficient versus chord length. This code is converted to software and is compared with various benchmark cases such as experimental data in plunge motion for selected reference case. The present software satisfactorily predicted outputs correctly.