

عنوان مقاله:

Simulation of Single and Multi-Plasma Actuators Effects on StallControl

محل انتشار:

دوازدهمین کنفرانس دینامیک شاره ها (سال: 1388)

تعداد صفحات اصل مقاله: 10

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خلاصه مقاله:

Stall control over NACA 0021 has been studied by using single and multi-plasma actuators in low Reynolds flows. The electrostatic model has been used for simulating plasma actuator effect on flow. This model is based on assumption of different time scales which play different roles in physics of plasma actuator. The flow governing equations were 2-D steady Reynolds averaged Navier-Stokes (RANS) equations for incompressible flow. Airflow velocity was 3 m/s. Two different post-stall angle of attacks have been used. Single plasma actuator effect has been investigated in two different locations near the leading edge of airfoil. Effect of multi-plasma actuator on flow has been simulated by applying those two single plasma actuators simultaneously. It has been shown that by using multi-plasma actuator, separation region over airfoil is properly suppressed.

کلمات کلیدی:

Plasma Actuator, Stall Control, Electrostatic Model, EHD

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