

## عنوان مقاله:

AEROELASTIC ANALYSIS USING MODIFIED REDUCED ORDER AERODYNAMIC MODEL

## محل انتشار:

پانزدهمین کنفرانس سالانه مهندسی مکانیک (سال: 1386)

تعداد صفحات اصل مقاله: 7

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## خلاصه مقاله:

A novel analytical formulation for aeroelastic analyses using a proposed accelerated efficient reduced-order aerodynamic modeling approach (PROM) based on the boundary element method is developed. In this approach the eigenvalue problem of the unsteady flows is defined based on the unknown wake singularities. By constructing this reduced-order model, the body quasi-static eigenmodes are removed from the eigensystem and it is possible to obtain satisfactory results without using the static correction technique when enough eigenmodes are used. For illustration purposes, numerical examples are presented that demonstrate the accuracy and efficiency superiority of the present method over conventional reduced order modeling (CROM). Also, The incorporation of this aerodynamic model into aeroelastic flutter model are shown. Stability results are presented for critical and non-critical velocities

## کلمات کلیدی:

Aeroelasticity, Airfoil, Eigensystem, Flutter, Wake

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/28773>

