Dynamic Analysis and Instability of a Rotating Composite Rotor

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Abstract : In this paper, the dynamic response for the instability of a composite rotor is presented, under dynamic loading response in the harmonic analysis condition. The analysis of the stress which operates the rotor is done. Calculations of different energies and the virtual work of the aerodynamic loads from the rotor blade is developed. The use of the composite material for the rotor, offers a good stability. Numerical calculations on the model develop of three dimensions prove that the damage effect has a negative effect on the stability of the rotor. The study of the composite rotor in transient system allowed to determine the vibratory responses due to various excitations.