

## Material Fracture Dynamic of Vertical Axis Wind Turbine Blade

**Authors :** Samir Lecheb, Ahmed Chellil, Hamza Mechakra, Brahim Safi, Houcine Kebir

**Abstract :** In this paper we studied fracture and dynamic behavior of vertical axis wind turbine blade, the VAWT is a historical machine, it has many properties, structure, advantage, component to be able to produce the electricity. We modeled the blade design then imported to Abaqus software for analysis the modes shapes, frequencies, stress, strain, displacement and stress intensity factor SIF, after comparison we chose the ideal material. Finally, the CTS test of glass epoxy reinforced polymer plates to obtain the material fracture toughness  $K_{Ic}$ .

**Keywords :** blade, crack, frequency, material, SIF

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