ABSTRACT

Bird strikes cause significant flight safety threats to rotorcrafts. A rotorcraft must show compliance with "continued safe flight and landing" requirements following specified types of high-energy bird impact. This project presents the state-of-the-art bird strike simulation methodology based on Smooth Particle Hydrodynamics techniques. The bird models are subsequently applied to simulate the bird impact with the Helicopter structures. It is demonstrated that the developed methodology is capable of accurately predicting structural failure modes and deformation for rotorcraft subjected to the high-energy bird strike impacts. The objective of this study is designing the airborne structure with aluminium and composite structure for resistance of Bird impact load.