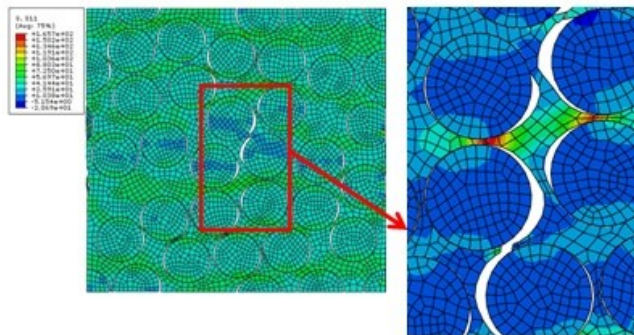
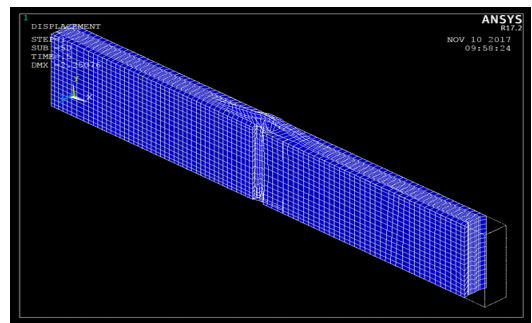


Ongoing research in Composite Materials Group at IIT

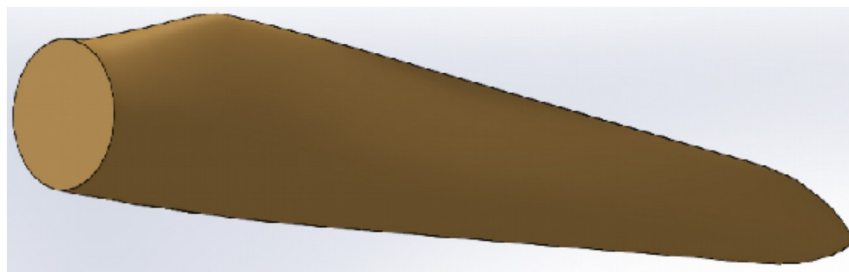
Goal of our research group is to establish a thoroughly validated multiscale finite element methodology to predict the damage and stress-strain behavior of the fiber reinforced composite materials. Understanding the various factors that contribute to the damage initiation and propagation from the microscale to macroscale of the composites provides necessary information to design robust and damage tolerant composite structures. For the aforementioned purpose, as shown in the below figures, multiscale damage analysis is conducted on the composite materials across different length scales. Apart from establishing a state-of-the-art composite materials and structures testing laboratory, long term goal of our research group is to design and manufacture the industrial scale composite structures.



Micro scale damage modeling



Macro scale compression simulation



2m long wind blade (CAD model)