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Paper Title : Multiphysics Analysis of Impact of Vibrations on the Formation of Dendrites in Lithium-Ion Batteries

Bio :

Ashish Patil is a dedicated mechanical engineering researcher specialising in lithium-ion battery safety and Multiphysics analysis. His work integrates COMSOL Multiphysics simulation, solid mechanics, and electrochemical modelling to study battery degradation mechanisms under combined thermal, mechanical, and electrochemical stresses. He is currently pursuing a PhD at Sheffield Hallam University, focusing on vibration-induced dendrite formation and AI-enabled predictive modelling for safer battery systems. His professional background includes engineering design roles in India and data analytics certification from Correlation One (USA). Ashish has published peer-reviewed papers in renewable energy systems and is proficient in COMSOL, ANSYS, SolidWorks, and MATLAB. His long-term research goal is to develop intelligent battery models that improve safety, performance, and lifespan of energy storage systems.