

Stochastic Grey-box Model of the Flow-Front Dynamics

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With the continuously increasing size of the wind turbine blades, the complexity of the blade casting process and the risk of failures has also increased. The vacuum-assisted resin transfer moulding (VATRM) production process at the Siemens Gamesa Renewable Energy facility in Aalborg, Denmark, does not permit the visual inspection of the process. Hence a sensor system (possibly virtual) for process control and monitoring is highly prized. Therefore, in this poster, a simple methodology to identify a low-dimensional stochastic grey-box spatiotemporal model of the flow-front dynamics inside the vacuum assisted resin transfer moulding process is described. A numerical case-study is presented demonstrating the effectiveness of the proposed methodology.

Primary author: Dr RELAN, Rishi (Siemens Energy, Technical University of Denmark, BML Munjal University)

Presenter: Dr RELAN, Rishi (Siemens Energy, Technical University of Denmark, BML Munjal University)

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