HEXAGON

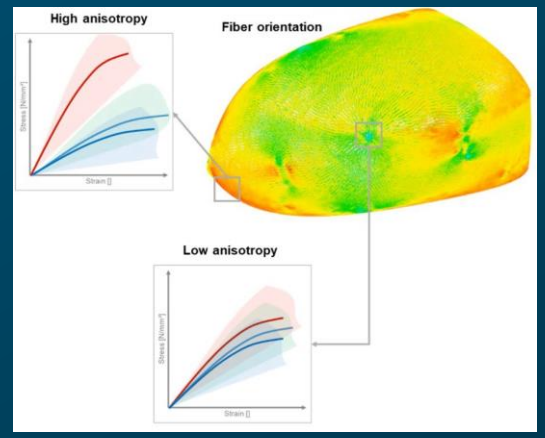
empowering an autonomous future

Proposte Tesi con Digima

2024

Uncertainty Quantification

Reliability of recycled grades



Keywords

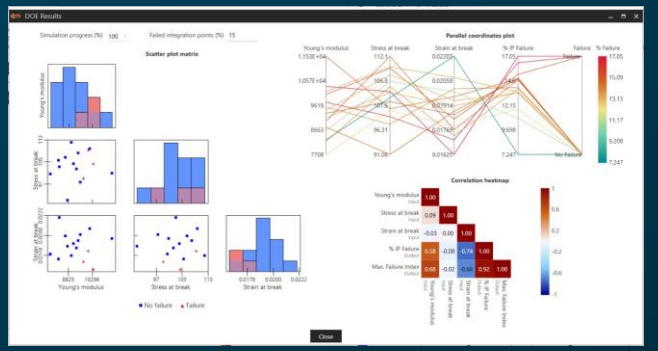
Sustainability, Recycled Grades, Structural Simulations, Machine Learning

Hexagon Software

Digimat-MS, Marc, Odyssee

Summary

Although there is a strong push from government policies and market demand to use recycled plastics in the production of short fiber-reinforced plastic components for automotive and consumer goods, their adoption remains limited due to the variability in their structural properties (e.g., stiffness, strain at break, etc.). Digimat-MS allows for the consideration of this material variability in recycled grades, enabling the assessment of the structural reliability of short fiber-reinforced components. By accounting for variations in stiffness and stress/strain at break, users can initiate a Design of Experiments (DoE) to explore how different material property combinations impact the component's structural behavior. The resulting data is then used to generate a reduced order model (ROM) through Odyssee, facilitating a more detailed analysis of how material variability affects the component's structural reliability.



Note: The capability to generate a ROM with Odyssee in Digimat will be available starting from Digimat 2025.1, which is expected to be released in mid-April 2025.

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Thank you.

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