

Connecting the "Dots": Topology Optimization for Fiber-Reinforced Composites

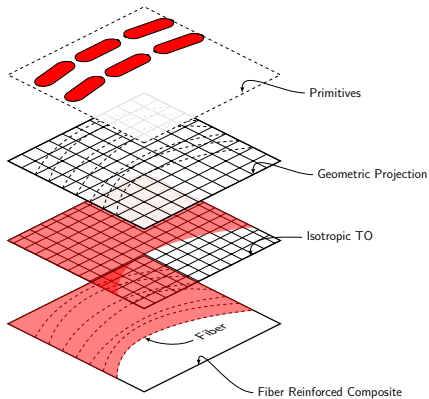
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Simultaneous Fiber & Composite Topology Optimization



Computing Topological sensitivity field to locate optimal fiber

$$\psi(\Omega) = \frac{1}{2} \int_{\Omega} \sigma(\mathbf{u}) \cdot \varepsilon(\mathbf{u})$$

$$TD(\hat{x}) = \lim_{\epsilon \rightarrow 0} \frac{\psi_{\epsilon}(\Omega) - \psi(\Omega)}{f(\epsilon)}$$

Flow

