

An Introduction to Topology Optimization

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Abstract

The field of topology optimization was originally developed with the goal of finding optimal structures with maximum stiffness that used the minimum amount of material. This field has been evolving and applications for heat management and chemical reaction design has been emerging in recent years. In this talk I will present a high-level perspective on the kind of problems that have been addressed using topology optimization, and I will discuss how this approach can be used in chemical engineering problems to tailor transport processes in relevant unit operations such as heat exchangers and reactors.