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Closed-loop optimization and investigation of bistable interlocked structure

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Highlights

The mechanical characteristics of a novel bio-inspired structure—BI was studied based on FEM simulation.

Parametric models of structures with individual and multiple bistable interlocked sutures were built by using Python Language.

GSA-HDMR for design variables of individual bistable interlocked tabs was carried out through a closed-loop approach.

Optimal designs of structure with multiple interlocked sutures were obtained by several different algorithms and a comparison of the results was also conducted.

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