Universität Basel

Publication

A sampling-based optimization algorithm for solution spaces with pair-wise-coupled design variables

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Solution spaces are sets of good designs that satisfy all design goals. They serve as target regions for robust and independent component development in a distributed design process. So-called solution boxes provide best decoupling; however, they are often small and therefore impractical. This article proposes an algorithm that computes two-dimensional permissible regions for pairs of design variables that are substantially larger than solution boxes. This is accomplished by modifying the existing sampling-based optimization algorithm for boxes and extending it by box-rotation.