Space Mapping With Adaptive Response Correction for Microwave Design Optimization -
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Output space mapping is a technique introduced to enhance the robustness of the space-mapping optimization process in

The technique often works very well; however, in some cases it fails. Especially in the microwave area where the typical model response (e.g.,
vertical bar S-21 vertical bar) is a highly nonlinear function of the free parameter (e.g., frequency), the output space-
mapping correction term may actually increase the mismatch between the surrogate and fine models for points other than
the one at which the term was calculated, as in the surrogate model optimization process. In this paper, an adaptive
response correction scheme is presented to work in conjunction with space-mapping optimization algorithms. This
technique is designed to alleviate the difficulties of the standard output space mapping by adaptive adjustment of the
response correction term according to the changes of the space-mapped coarse model response. Examples indicate the
robustness of our approach.

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