Working Title: Reverse Design of Meta-surface Stacks via Neural Network

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1 Abstract

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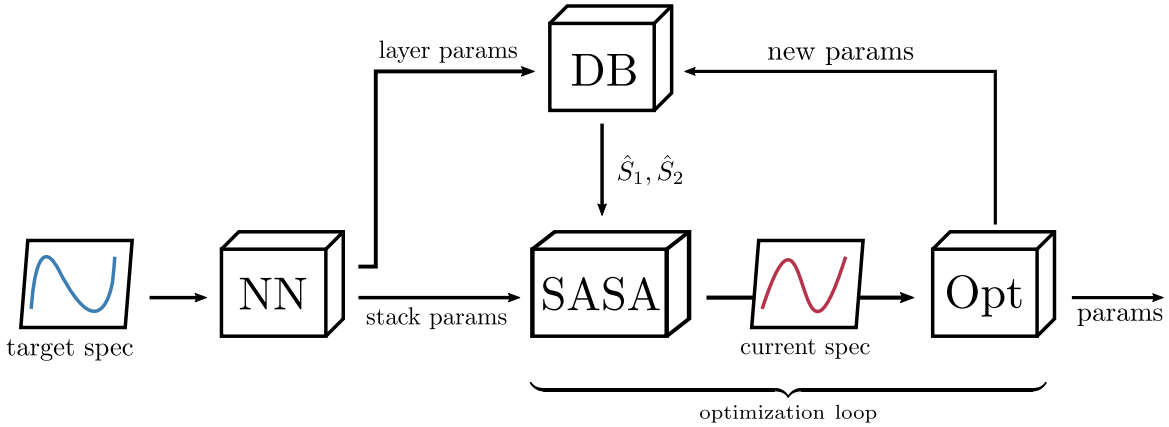

Figure 1: A Flowchart of the Algorithm
NN ... convolutional Neural Network trained to map spectra to stack and layer parameters
DB ... database of FMM simulated single layers
SASA ... algorithm calculating $\hat{S}_{\text{Stack}}$ from $\hat{S}_1$ and $\hat{S}_2$
Opt ... optimizer changing parameters to minimize the difference between the current and target spectrum
layer parameters ... these include the geometry of the periodic meta surface cell and the kind of material used
stack parameters ... the rotation angle of the layers to one another and the distance between
new paramerters ... the Opt. only changes the continuous parameters, the discrete ones , e.g. material, remain unchanged
optimization loop ... this loop is repeated until the target accuracy is reached

4 The Neural Network

5 The Optimizer

6 Results

7 Literaturverzeichnis

sources.bib

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