Inverse Raman Amplifier Efficiency

tical amplifica-tion and communication deal with inverse system design. Typically, a desired output (usually a gain profile, a noise profile, a transfer function or a similar continuous function) is given and ...

We present a Convolutional Neural Network (CNN) architecture for inverse Raman amplifier design. This model aims at finding the pump powers and wavelengths required for a target ...

We will show how the machine learning framework is optimized to generate on-demand arbitrary Raman gain profiles in a controlled and fast way and how it can become a key feature for future optical ...

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V. RESULTS processes outlined in Section IV are run for the 5. Optimized Raman configuration when initialized to 20 remote and 20 forward the optimized RAs are input to two reference implementations ...

We present a novel method for inverse system design using machine learning and apply it to Raman amplifier design. Inverse system design for Raman amplifiers consists of selecting pump ...

In this paper, we perform a thorough experimental characteriza-tion of such machine learning framework. The applicability of the proposed approach, as well as its ability to accurately provide flat ...

We present a convolutional neural network architecture for inverse Raman amplifier design. This model aims at finding the pump powers and wavelengths required for a target signal power evolution in both ...

The broadband pump is optimized by machine learning based inverse design and shaped by programmable waveshaper, so as to realize the ultrafine, dynamic and arbitrary gain spectrum ...

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