Intelligent Raman Amplifier

In this work, a cognitive Raman amplifier controller using an evolutionary optimization strategy for both in-field device calibration and optimal pump power configuration design is presented.

approach relies on the accuracy of NNs, and dedicated NN models are necessary for each specific scenario. In this paper, we propose a transfer learning-enabled Transformer framework to ...

intelligent definition: having high mental capacity or quick understanding. Check meanings, examples, usage tips, pronunciation, domains, and related words. Discover expressions like "intelligent ...

Abstract: A differentiable nonlinear interpolation function learns the Raman gain efficiency and enables gradient-descent-based optimization of a Raman amplifier with arbitrary number of pumps.

1. having good understanding or a high mental capacity; quick to comprehend. 2. displaying quickness of understanding, sound thought, or good judgment: an intelligent reply. 3. having the faculty of ...

INTELLIGENT definition: having good understanding or a high mental capacity; quick to comprehend, as persons or animals. See examples of intelligent used in a sentence.

A machine learning method designing flat broadband erbium-doped fiber amplifier (EDFA) + Raman hybrid amplifier was demonstrated. First, we trained a neural network (NN) using data ...

INTELLIGENT definition: 1. showing intelligence, or able to learn and understand things easily: 2. showing intelligence.... Learn more.

Definition of intelligent adjective in Oxford Advanced Learner"s Dictionary. Meaning, pronunciation, picture, example sentences, grammar, usage notes, synonyms and more.

We propose a neural network-based gain prediction model for a 12 THz C+L-band distributed Raman amplifier, achieving a MSE of 0.029 and an R2 value of 0.997. Us.

intelligent, clever, alert, quick-witted mean mentally keen or quick. intelligent stresses success in coping with new situations and solving problems.

A multi-layer neural network is employed to learn the mapping between Raman gain profile and pump powers and wavelengths. The learned model predicts with high-accuracy, low-latency and low ...

We propose an innovative optimisation framework using a multi-objective genetic algorithm to

simultane-ously optimise the launch power profile and design the Raman amplifiers. Its flexibility allows us to ...

We report an intelligent gain flattering method for rapid, precise and objective-driven FMF Raman amplifier design, by using machine learning based inverse design method to optimize the pump ...

For a short-reach metro network or DCI application with high-data-rate transceivers, the distributed Raman amplifier delivered the best transmission performance, compared with any other amplification ...

This paper proposed three diferent Raman optical amplifier architectures that are designed and investigated for 50 × 100 Gbps dense wavelength division multiplexed (DWDM) sys-tem at channel ...

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