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Solving multi-response optimization problem using artificial neural network and PCR-VIKOR

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ABSTRACT

In this paper a hybrid approach is introduced to solve multiple response problems. In the propose to noise (SN) ratio is computed and then SN ratios for unexperimented treatments are estimated neural network. The SN ratios are converted into a process performance index by applying proces and VIKOR method, so the treatments can be ranked and the best of them is selected. The perfor proposed method is verified in a case study. Moreover a sensitivity analysis has been done by a V estimator turned neural network. The results show efficiency of the proposed approach.

INDEX TERMS

• IEEE Terms

Artificial neural networks , Biological neural networks , Equations , Indexes , Optimization , Sensitivity

• INSPEC

◦ Controlled Indexing

mathematics computing , neural nets , optimisation , sensitivity analysis

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