



SELF-LEARNING SYSTEM FOR SURFACE FAILURE DETECTION (WedPmPO4)

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✳ **Abstract :** In this article we present a self-learning system for automatic detection of surface failures on ceramic tiles. This algorithm is based on the probabilistic neural network with radial basis. The discrete wavelet transform (DWT) is used as preprocessing method with good feature extraction possibilities. With an automatic procedure for the production of input vectors for the neural networks training the presented system can adapt itself to different textures. Experimental results of the defect detection for different types of tiles show a high accuracy and applicability of the proposed procedure.