改进果蝇算法优化 GRNN 在弹痕深度预测中的应用

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摘　要：本文采用果蝇优化算法来优化广义回归神经网络的平滑因子，提出了基于改进果蝇算法优化广义回归神经网络的弹痕深度建模方法，将该方法与未经优化的广义回归神经网络测试函数逼近误差，结果明显优于未经优化的广义回归神经网络.最后，通过与未经优化的广义回归神经网络、原始果蝇优化算法优化的广义回归神经网络以及 BP 神经网络进行比较，其性能明显优于另外三种方法，验证了该方法在弹痕深度预测中的有效性.

关键词：非线性问题；广义回归神经网络；果蝇优化算法；函数逼近；弹痕深度

Application of Improved Fruit Fly Algorithm Optimization GRNN in Bullet Depth Prediction

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Abstract： We use the fruit flies optimization algorithm to optimize smoothing factor of generalized regression neural network,and thus proposed the bullet scratch depth modeling method based on the optimization of the generalized regression neural network with improved fruit flies optimization algorithm,and the method is much better than the unoptimized generalized regression neural for function approximation.In the end,take the generalized regression neural network without optimization method,the unoptimized generalized regression neural network with original fruit flies optimization algorithm and the BP neural network into comparison,the performance of this method is superior to the other three methods,it verified the effectiveness of this method in the bullet scratch depth prediction.

Key words：nonlinear problem; GRNN; fruit fly algorithm; function approximation; bullet depth

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