

Abstract

The Dam Pishen located at 169 km from the city of Chabahar, The reservoir capacity of 175 million cubic meters and a height of 63 Mtrdrsal crown in 1372 and was exploited by cyber. The purpose of the dam's construction in Chabahar city drinking water supply and agricultural water district is Bahvklat. Among the important characteristics of the reservoir water level. Knowing how to effectively balance the fluctuations in the interpretation and evaluation of issues including risks related facilities and structures, changes in water storage, water, construction, shoreline structures and environmental issues. In this study, the feasibility of using static models (ANN MLP) and dynamic (ANFIS) to simulate the reservoir level using the previous four years (88-85) were obtained from previous Dam Station. To obtain the optimal model to simulate the water level of the reservoir variables and inputs such as temperature (maximum and minimum), wind speed, evaporation was used. To purpose the the network characteristics, such as number of hidden layers, number of neurons in each hidden layer, the training algorithm and activation function were determined using the software package MATLAB. Finally, simulation results Dam water level by ANN and ANFIS compared with actual data collected and accuracy of the methods using the criterion of RMSE, MAE and R2 were assessed. Due to the water level of the reservoir simulation model, the results obtained show the good accuracy of the model in estimating the water balance, mong them was better neural networks. Based on the results of statistical analysis in two steps (training and testing) neural network simulation with standard values of RMSE, MAE and R2, respectively, equal to 0.18 and 0.07 and 0.95 calculated on this basis it is suggested to better manage the water resources of the dam reservoir simulation techniques using static and dynamic models to be used in all dams.

Keywords:Pishen Dam, Water level, ANN, ANFIS



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