Abstract
From the most essential cases in qualitative management of underground water sources is water qualitative estimate by using of taken data form the network of observant wells. It is necessary that regarding taking of surface of the underground water in plains as pointy in observant wells to extend the information resulted from the pointing taking to surface for calculation the average amount of qualitative amounts of underground water in plains and estimate the qualitative amounts of water. Always, the using of the models of the statistical-ground have accompanied with error, since, in most cases, function of worth is not including all estimated experimental points. The aim of the accomplishment of this research is to survey the use of the compound method of the statistic-ground and the best artificial nervous system with genetic algorithm in finding middle qualitative amounts of the underground water. First, in this research, the use of kriging model was chosen for estimated qualitative amounts of the underground water of Torbat Jam- Fariman plain that located in Southern Khorasan province with certain geohydrology conditions. These, in continue, were drawn with election of the appropriate landscape changing half model of the plans resulted from the Kriging model. Then, during a regular networking in plain area, the qualitative data of the underground water that have been estimated by the Kriging method, and have been extracted as textual file and have been applied in compound with nervous system way.The compound of the chosen statistical-ground method with artificial nervous system, showed this compounding algorithm have the better performance and caused to improve the pointing estimated of qualitative amounts of the underground water for estimate the amounts of the nitrate, sodium, calcium, magnesium, of the underground water for Torbat Jam- Fariman plain. It also has superior evaluation criteria than the use of geostatistical methods alone. The results showed that the estimated SAR values of Torbat Jam- Fareeman plain soil, MLP neural network with Levenberg-Marquardt algorithm which is explained by a factor of 98/0 is more appropriate evaluation criteria for combining with geostatistical method. Finally, optimizing the results of artificial neural networks in combination with geostatistics, the research was effective and reduced the error in the estimation process by utilizing the genetic algorithms to estimate the values of investigated groundwater quality in this research.
Keywords:Geostatistical, Artificial Neural Network, Drop in water level, Groundwater Quality, Torbat Jam- Fariman Plain.

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