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Studying the Karst Phenomenon Based on Geoelectric and Polarization Surveys (A Case Study in Gheidar Plain Aquifer, Zanjan, Iran)

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Excessive growth in extraction of underground water resources leads to increase in Karsty trend of aquifer that in addition to severe shortage of water table and saltiness of aquifer will cause ground settlement and creation of sinkholes. Ground settlement and sinkholes creation are destructive phenomena that in recent years have been observed in most parts of Iran and they also have been led to irrevocable damages.
Continuous geoelectric and polarization surveys could be assumed as a confident and inexpensive method to study Karsty trend in aquifer, and in this case study the Gheidar Plain Aquifer have been investigated.
The research showed that the geoelectric and polarization surveys are in common with excavation studies.

Keywords: Karst, ground settlement, sinkhole, geoelectric, polarization, aquifer