

GEOTECHNICAL STRUCTURES IN THE ANCIENT WORLD. THE CASE OF THE ZIGGURAT OF UR

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ABSTRACT

Abstract. The current study presents several geotechnical structures which were built during the antiquity, aiming to illustrate the ancient technological achievements and to provide an insight into the geotechnical skills in the past. It is evident that ancient civilizations had awareness of the various geological and climatological / meteorological hazards (i.e. natural hazards) that affected the structures and used rather reliable techniques for that time. Furthermore, the study aims to illustrate how some of these are related to modern geotechnical structures. More specifically, the earth retaining techniques used for the construction of the massive pyramid-like structures Ziggurats are shown, highlighting their contribution to structural safety. In this framework, several numerical models have been built and analysed, using the Bishop Analysis for slope stability method and the Finite Element Stress Analysis Method. The results of the numerical simulations are presented and discussed.

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