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## **Main geotechnical issues and planned investigations for the design of ET Infrastructure in Sardinia**

*Tuesday, 9 November 2021 09:30 (30 minutes)*

An overall feasibility study is carried out in Sardinia as one of potential site for the construction of the Einstein Telescope (ET). One of the primary activities of this feasibility study is the design and implementation of a geotechnical and geophysical campaign aimed to acquire all the information for the development of an accurate geo-mechanical model of the rock masses which will host the underground infrastructures. The outcomes of this activity, together with a detailed geological and structural model, is fundamental for the development of underground works design, including the selection of the optimum orientation and geometry of the caverns, geotechnical stability and structural analysis, definition of temporary and the permanent lining of tunnels and caverns, evaluation of the excavation techniques, definition of a model for the risk assessment during tunnels construction, evaluation of time and cost.

The first part of talk focuses on the main geotechnical issues related to the design and construction of the ET underground infrastructures with particular reference to the specific geological and geotechnical characteristics of the Sardinia site. The second part illustrates geotechnical activities in progress and planned.

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