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The Analysis of the Snow Mechanics and the Survey Telescopes Tower in Dome A

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Abstract:

Located in the highest point of Antarctic ice cap, Dome A has been considered as one of the best astronomical observatory sites in the world. Some survey telescopes is planning to be installed in Dome A. Unlike any other areas, these telescopes have to be settled on the snow ground. In that case, it is very important to analyze the Snow mechanics, and the deformation of the telescope pier that mostly is truss tower in Dome A. The presentation firstly introduced the analysis of the snow strength and elastic modulus in Dome A. Secondly, the dynamic and statics analysis of the telescope tower and the dome tower will be shown in this presentation. Based on the design of the towers, the snow treatment and strength test method will be introduced at last.

Key words: Dome A; Snow Mechanics; Truss Tower

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