

The reflecting panels for the Large Size Telescopes at the southern site of the Cherenkov Telescope Array Observatory (CTAO)

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The Cherenkov Telescope Array gamma-ray Observatory (CTAO) is working on developing two large telescopes, each with a diameter of 23 meters, that will be installed in Paranal, Chile. They are referred to as Large Size Telescope South, LST-S. These telescopes will use a single mirror parabolic shape to capture images with moderate angular resolution. 198 hexagonal reflecting panels will be assembled into the telescope structure to achieve this shape. Each panel is roughly 150 cm in size and weighs less than 50 kg. It comprises two solid glass plates bonded to a lightweight honeycomb structure of an Aluminum alloy core. The panels are spherical and distributed in three coronas with different curvature radii to achieve the desired shape. They will be exposed to the atmosphere for several years and must withstand mechanical stresses, wind impact, and possible strong earthquake solicitations. The panels are the basic elements of the telescope's segmented primary mirror. The development activities for such large panels performed to optimize the mirror design and prototypes are presented in this contribution.

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