

A trade off study of lightweight primary mirror for spaceborne telescope

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High-resolution telescope from space comprises electro-optical imagery with a ground resolution lying within the range of 1 to 5 meters. According to information documented in the literature up to now, most primary mirrors verified and flown in optical space missions have been lightweighted made from Zerodur, ULE, beryllium, SiC or aluminium. A trade off study was performed to determine as a "lightweighted" by factors like backside cell pattern, rib thickness, face thickness, mirror fixation device location and material and so on based on structural performance for primary mirror in submeter class spaceborne telescope.