

**Mirror Deformation Modeling for HANDS
(High Accuracy Network Determination System)**

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Tracking objects in the sky has been done for thousands of years by ancient civilizations. This project will consist of the assembly of a telescope system which will make tracking objects in the sky relatively easy and cost effective for small businesses. A very important part of this project is to design a telescope that will be accurate and able to give usable data. One of the most important pieces of the telescope is the mirror, which will determine the accuracy of the images. As the telescope pans the sky, the mirror is subjected to different angles relative to gravity. This force causes the mirrors to deform. Because this type of deformation affects all materials, including the mirrors material, differently, knowing how these materials deform became a significant part of making an accurate telescope. With this being realized, a whole new leg of researching was implemented. With this telescope system up and running, space object tracking will be easy and effective.