|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Science / Technology**  **Goals** | **Science / Technology**  **Objectives** | **Measurement Requirements** | | **Instrument Requirements** | | **Projected Performance** | **Mission Requirement (Top Level)** |
| **Physical Parameters** | **Observables** |
| Discover and study planets around stars | Determine nearby exoplanet’s key information | Radius | Periodic decreases of brightness over time | Brightness | Magnitude <= 13 | Magnitude <= 11 | Using GNC to point cameras to different stars  Stability of cameras while observation  Prevent cameras from pointing directly towards out Sun  Set of 2 fast cameras for bright stars, color requirements, and fine guidance and  Navigation |
| Semi-Major axis of the orbit |
| Determine planets and planetary systems history | Mean density |
| Radii of exoplanets of similar composition |
| Identify planets that could harbor life | Determine the presence of water on exoplanets | Albedo | Change in the periodic decreases of brightness over time for the same planet | Brightness | Magnitude <= 13 | Magnitude <= 11 |
| Identify Earth-like planets | Radius | Periodic decreases of brightness over time | Brightness | Magnitude <= 13 | Magnitude <= 11 |
| Mass |

Magnitude <11 means that it will be able to detect exoplanets crossing stars of magnitude less than or equal to 11 (lower magnitude means brighter star).