

# Development of a balloon-borne telescope for remote sensing of planets

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An optical telescope lifted up to the polar stratosphere by a balloon can be a powerful tool for remote sensing of planets for the following reasons: a long continuous observation window, quite stable optical seeing, and larger spectral regions to be observed compared with ground-based telescopes. A new balloon-borne telescope system for monitoring of planetary surfaces, atmospheres and magnetospheres has been designed and developed. The first target will be dynamics of the Venusian atmosphere as deduced from temporal variations of cloud patterns seen in ultraviolet and near-infrared regions. Designing a balloon-borne telescope system has been started in FY2003. A sun sensor and a mirror stirring mechanisms have been developed as key sub-components of the system.