
Optical Error Analyses in AQuaKET - Intensity variation, Diffraction, and Parallax

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The Automated Quantitative Knife-Edge Test (AQuaKET) method was developed for testing the surface profiles of large optics with high accuracy. Testing with the required accuracy of very large telescope is not an easy job to achieve, as it is a nano-technology. There are lots of possible error sources which can occur during the measurements and in the data processing of the AQuaKET. The error sources can be categorized into 5 areas: optics, mechanics, electronics, numerical processes, and system. In this paper, possible error sources in Optics are discussed, which are intensity variation of the light source, diffraction effects, and parallax effect. In this talk, those possible error sources in optics are presented and discussed.