The aim of this study is to validate a rapidly reconfigurable null-test using a Hartmann pattern as target. The image of reflected light from a spherical reference sphere is used to test the capability of the corneal surface characterization method. A integration method is used to derive the shape of the reflective surface using a reflective spherical reference surface as a corneal simulator. Reconstruction using the trapezoid rule offers an easy solution as is shown in refs [1-3]. Measurements are performed on 4 healthy subjects' eyes.

**Introduction**

The anterior corneal surface provides about 80% of the total dioptic power of the human eye. Traditionally, corneal topography has been studied by commercial Topographers who mostly rely on the Placido disc. A possible limitation of this system is the ambiguity of data in azimuthal direction. For that reason, recently it has been developed new generations of Topographers that use a different principle.

**Objectives**

According to the theory developed with the null screen method [1-3], an experimental setup based on the null-test using Hartmann pattern is proposed, which, allow us to evaluate the corneal surface guaranteeing a good efficiency and sufficient resolution in the optical parameters required.

**Methodology**

According to the theory developed with the null screen method [1-3], an experimental setup based on the null-test using Hartmann pattern is proposed, which, allow us to evaluate the corneal surface guaranteeing a good efficiency and sufficient resolution in the optical parameters required.

**Experimental results**

**Conclusions**

The quantification of the corneal surface is of great importance in clinical and research applications of relevance for refractive corrections and the diagnosis and monitoring of corneal ectasias and keratoconus.

A rapidly reconfigurable and low-cost system with reconfigurable parameters as demonstrated here may suffice for corneal reconstruction.

**References**


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