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Abstract Title:	**A New System to Measure Intraocular Scattering Based on Brightness**
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Purpose: It is well known that the brightness of a test against a dark surround is strongly reduced when it is presented under glare conditions. The scattered light on the retina affects the visual process and there is a correlation between this stray light and the brightness reduction. We propose in this work to use this brightness reduction to assess the level of intraocular diffusion.

Methods: The system consists on a haploscopic configuration in wich two semicircles are presented such that each of these semicircles falls on only one eye. One of the semicircles has a reference luminance (Lr) and the other an adjustable luminance (Lm). Simultaneously, a steady glare source (150 lux, temporal 25 degree) falls on the eye that sees the reference luminance. The subject's task was to match the brightness of the two semicircles. Matching luminance (Lm) was obtained for 5 values of Lr (4,6 - 58 cd/m^2) and 5 normal subjects (21-55 years old). Each Lm was the average of 5 different measurements. A control experiment was performed with no glare.

Results: Results show a systematic decrease of Lm with glare for all subjects and values of Lr. Lm/Lr without glare are nearly 1 for all subjects indicating no dependence of the measurement with the intraocular scattering associated to aging.
The standard deviation of Lm/Lr decreases with increasing Lr.

Conclusions: Results obtained in this experiment suggest that the haploscopic configuration may be appropriate to evaluate the intraocular scattering. The method is fast, which is convenient for some applications such as those related with clinical tests. However, the large errors found in the measurements suggest that the fast method of adjustments could be improved. One of the challenges that we face now is to solve the trade-off between fastness and precision.

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