

COMPARISON OF CONTRAST SENSITIVITY TESTS FOR TWO TYPES OF TARGETS: GABOR PATCHES AND MODULATED BY BESSEL PROFILES

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Sinusoidal gratings often in form of Gabor patches are used in popular contrast sensitivity tests [1–3]. They're presented in one, three or six positions. Increasing the number of positions allows for decrease of the impact of the residual astigmatism and other non-rotationally symmetric aberrations of the eye on the results, but at the same time it makes the examination longer. Patients may get weary and answer incorrectly.

The purpose of this study is to check whether using rotationally symmetric targets modulated by a Bessel profile leads to reduction of the examination time while preserving the low sensitivity to astigmatism.

Two types of patterns of different spatial frequencies, that are static Gabor patches [4] and targets modulated by a Bessel profile [5], were presented to subjects as contrast sensitivity test targets. They were presented monocularly in an increasing contrast procedure to avoid afterimages effect. Fifty subjects were healthy, without refractive errors or with the best possible vision correction and visual acuity 1.0 or higher. As a result, contrast sensitivity thresholds and the examination time were measured and compared. The usability of Bessel modulated tests was confirmed.

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