

# **Transient Adaptation of the Eyes of a Motorist**

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• **THIS IS** a brief report of a project sponsored by Wright Air Development Division, Air Research and Development Command, U. S. Air Force.

The project is concerned with the development of a device that will aid in the study of transient adaptation of the eyes of a motorist in driving along a highway at night where he is confronted with street lights and the head lights of oncoming automobiles. It is necessary to move down the highway in an automobile equipped with a glare meter that will assess the stray light at the fovea and a second meter that will measure the average luminance of a small portion of the visual field centered around the primary line of sight. If it is assumed that the eyes are fixed on the edge of the road at a constant distance in front of the automobile, these devices can be mounted in a fixed position in the automobile. Compensation could be made for changes in the pitch and direction of the road. One could set up a complicated arrangement in which these devices actually track the eyes of the driver. The two types of information (stray light and average luminance) will be fed into an electronic analog computer that will evaluate the state of adaptation at the fovea and consider the immediate past history of the eyes of the observer. It is figured that this is an easier way to measure changes in the adaptation of the typical observer than to attempt to make measurements of adaptation directly.

The present project is part of a program outlined in a paper that was presented at the CIE meeting in Zurich in 1955 called Physiological Bases of Disability Glare.