



ELSEVIER

Contents lists available at ScienceDirect

Data in Brief

journal homepage: www.elsevier.com/locate/dib



Data Article

Data obtained with an open-source static automated perimetry test of the full visual field in healthy adults



Iván Marín-Franch^{a,*}, Paul H. Artes^b, Luke X. Chong^c,
Andrew Turpin^d, Michael Wall^{e,f}

^a Department of Ophthalmology and Visual Sciences, University of Alabama at Birmingham School of Medicine, Birmingham, AL, USA

^b Eye & Vision Research Group, Institute of Health and Community, Plymouth University, UK

^c School of Medicine, Deakin University, Geelong, Australia

^d School of Computing and Information Systems, University of Melbourne, Australia

^e Departments of Neurology and Ophthalmology and Visual Sciences, University of Iowa, College of Medicine, Iowa City, IA, USA

^f Iowa City Veterans Administration Health Care System, IA, USA

ARTICLE INFO

Article history:

Received 13 August 2018

Received in revised form

13 September 2018

Accepted 25 September 2018

Available online 29 September 2018

ABSTRACT

The data were gathered from 98 eyes of 98 ocular healthy subjects. The subject ages ranged from 18 to 79 years with a mean (and standard deviation) of 47 (17) years. Each subject underwent two visual field tests, one of the central visual field (64 locations within 26° of fixation) and one of the peripheral visual field (64 locations with eccentricity from 26° to up to 81°). Luminance thresholds for the Goldmann size V stimulus (with a diameter of 1.72° of visual angle) were obtained with the ZEST Bayesian test procedure. Each test was conducted twice within 90 days.

© 2018 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

* Corresponding author.

E-mail address: imarinf@optocom.es (I. Marín-Franch).

Specifications table

Subject area	<i>Clinical vision science</i>
More specific subject area	<i>Perimetry</i>
Type of data	<i>Excel file</i>
How data was acquired	<i>Testing on an Octopus 900 commercial perimeter driven by the Open Perimetry Interface (OPI), an open-source R tool for designing and conducting perimetry at custom locations and with custom methods and algorithms</i>
Data format	<i>Raw, filtered, and analyzed</i>
Experimental factors	<i>Visual stimuli presentation is made following a random sequence of spatial locations. At each location, luminance threshold are determined following the Bayesian test procedures of King-Smith et al. (ZEST algorithm)</i>
Experimental features	<i>Volunteers tested for on the OPI-driven Octopus 900 using a larger stimulus size (Goldmann size V) than in conventional perimetry</i>
Data source location	<i>Iowa City, Iowa, USA</i>
Data accessibility	<i>Data is in this article and in the open source R package visualFields.</i>
Related research abstract (ARVO abstract)	<i>E. Lee, A. Subramani, R. Wanzek, T. Eden, L. X. Chong; A. Turpin; I. Marín-Franch, and M. Wall, Patterns of Vision Loss in Idiopathic Intracranial Hypertension: The Central vs. Peripheral Visual Field. Invest. Ophthalmol. Vis. Sci. 58 (2017) 3314 [10]</i>

Value of the data

- This is the first attempt to examine the central and peripheral visual field of a group of healthy individuals with an open-source threshold automated visual field test implemented in the Open Perimetry Interface.
- This test uses a Goldmann stimulus size V that has better retest variability, greater useful dynamic range and greater saliency in the far periphery than the Goldmann size III stimulus.
- This data is useful for clinical researchers to design tests and analyses of the far peripheral visual field.
- Each subject underwent each test twice so that retest variability can be quantified.

1. Data

The dataset consists of 128 luminance thresholds, obtained at 64 locations within the central 26° of the visual field and at 64 locations from 26° to up to 81° of the visual field for 98 eyes of 98 subjects, each eye tested twice. Put together, the central and peripheral tests cover from – 50° to 80° of the visual field horizontally and from – 46° to 26° vertically, that is, the full visual field (in a clinically useful sense). The precise locations tested are shown in the upper panel of Fig. 1. Although the visual field expands beyond 26° vertically, the upper eyelid is very often in the way (creating what is known as upper eyelid artifacts) so that the locations at 26° and farther up appear to have depressed sensitivity. Those locations are of limited clinical usefulness. For each test, the data include the eye tested, the subjects's age, proportion of false positives and false negatives, test duration and pauses, number of presentations, and the sensitivity estimated at each location.

Download English Version:

<https://daneshyari.com/en/article/11009408>

Download Persian Version:

<https://daneshyari.com/article/11009408>

[Daneshyari.com](https://daneshyari.com)