

## PAPER ON PATENT RIGHTS FOR A DEVICE FOR INVESTIGATION OF ALTERNATING AREAS

**D. Minchev, N. Deleva, A. Tzukeva, S. Slavchev<sup>1</sup>**

*Department of Neurology, Medical University of Varna and <sup>1</sup>Technical University of Varna*

**A device and a method for investigation of the visual assesment of alternating luminous areas (VAALA) (1) was created and patented by a group of the Departement of Neurology, Medical University of Varna: Assoc. Prof. D. Mintchev, MD, PhD, Assoc. Prof. N. Deleva, MD, PhD, A. Tzukeva, MD, together with Assoc. Prof. Eng. S. Slavchev, PhD, of the Technical University of Varna.**

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The especially constructed "Lumitest-analyzer" device (2) ensures conditions for changing the luminance correlation between central and peripheral luminous areas on a screen, excluding the possibility for physiological dazzling.

The presented method being actually psychophysical one, is based on a well-known phenomenon: darkening of a constant light background when increasing the brightness of a central luminous area. Mechanisms involved in the determination of the investigated visual phenomenon depend, probably, on the normal function of the eye and of the investigated systems of the visual analyzer as well as on the superimposed regulatory brain mechanisms.

Results and conclusions of several years of investigation presented in some papers and publications determined the diagnostic value of the method for testing the VAALA for statistically significant differences between healthy individuals and neurological patients (ischaemic brain lesions, brain supratentorial tumours, retrobulbar optic neuritis, multiple sclerosis, and Parkinson's disease).

The method of testing of VALLA is sufficiently precise, rapid and ecologically clean. This renders it convenient for repeated testing with possibility of dynamic examination of patients under clinical conditions.

In a theoretical aspect the method itself may also be a prerequisite for further reflections on and analyses of the functional interhemispheric interactions, binocular vision, all of them - parts of the complex visual capacity.

On the other hand, this method may serve as a basis for studying the mechanisms underlying the described phenomenon.

The patented "Lumitest-analyzer" device is at public disposal in the Neuroophthalmological Unit at the I Neurologic Clinic of the department of Neurology, where patients from the neurological clinics, from other clinics of the "St. Marina" University Hospital, as well as from other hospitals in Varna are being tested.

The patented device and method for testing the VAALA may be recommended to all structures of the public health care system including general practitioners with a view of its simple operation, possibilities for screening of patients with different brain disorders and last but not least because of its reasonable price.

Patent N 64Y1/6.I.1997 - Patent Administration, Republic of Bulgaria. Work permit for introduction of medical appliances and instruments for health service, Ministry of Health/ 14.XII.1998, Republic of Bulgaria

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**Address for correspondence:**

*D. Minchev, Dept. of Neurology, Medical University of Varna,  
55 Marin Drinov St, BG-9002 Varna,*

**BULGARIA**

E-mail: dmm\_neurol@yahoo.co.uk