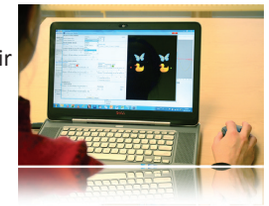
STEREOMETER ADVANTAGES

1. Accurate and objective registration of psychophysical parameters of stereovision and stereomovement (fusion, motion, depth perception, its threshold, stereo-position of objects, etc.) and their convenient analysis.

2. Simple, rapid diagnosis, accurate setting and control of testing and training parameters (object visual angle, speed of movement, colour, depth and their changes).



3. Automated training control (duration and quantity of exercises, sequence, parameter changing, etc.).

4. Person's active psychological attitude during tests and training due to their attractiveness. Training is transformed into games.

5. Research and training of vision system are integral and they include stereovision and stereoactivity. Static or dynamic stereoscene is generated, in which a person acts in a motivated and active way, whereas activity results are objectively and accurately recorded.

6. Response to motion, colour, interactions of central and peripheral parts of the retina and interactions of psychophysical mechanisms of both brain hemispheres are measured and trained, etc.

7. Polarizers and prisms prevent binocular rivalry which often occurs while using anaglyph stereograms.

8. Utilization of a personal computer and standard optometric trial frames reduces the cost and enables to expand and improve the stereometer easily with new tests and training.

9. Stereometer VISUS-4D allows easy diagnosis of strabismus and monocular vision and its training to stereovision.

10. According to special methodologies the stereometer VISUS-4D also allows to measure and evaluate interaction between stereovision, stereoactivity and inattentional blindness due to focus on internal thoughts, emotions, etc., and to do insight training.

Balance of insight and thinking is essential in high quality life, science and business worlds.

11. The stereometer VISUS-4D together with training of stereovision, stereoactivity and insight-thinking balance gives a significant improvement to life quality.

TESTS AND TRAINING

1. Test and training of static stereovision;
2. Test and training of dynamic stereomovement and stereoactivity;
3. Fusion test (to evaluate both the type of fusion and the dominant eye);
4. Angles of strabismus test;
5. Aniseikonia test;
6. Heterophoria and cyclophoria test;
7. Scotoma eliminating practice;
8. Insight-analysis balance test and training;

Startling discoveries about the human brain neuroplasticity have proven that not only can children's brain change but so can the brains of adults and elderly people too. Global optometry research and practice show that stereovision can be developed not only for children but for people over 60-years-old too (Russia, USA).

There are other mechanical devices of similar purpose known in the world, for example, prof. I. Rabichev's binarimeter with an appropriate technique (Russia), however it requires individual care during diagnosis, and especially during training. That is why their use is expensive and complex.

Stereometer VISUS-4D allows to use personal computers and to control the process easily by using appropriate software.

1. Testings, software and stereometer are availabe:
VISUS-4D Center, 51-70 Didlaukio Str., Vilnius, Lithuania, EU, Phone: +370-612-68984, E-mail: info@visus4d.eu, www.visus4d.eu

2. Testings and trainings are available:
Perception – Vision Research and Correction Center, Yaroslavskaya str. 8/6, office 303-305, 129164 Moscow, Russia, Phone: +7 (495) 926-98-71; E-mail: binarimetr-ir@bk.ru , www.binarimetr.com

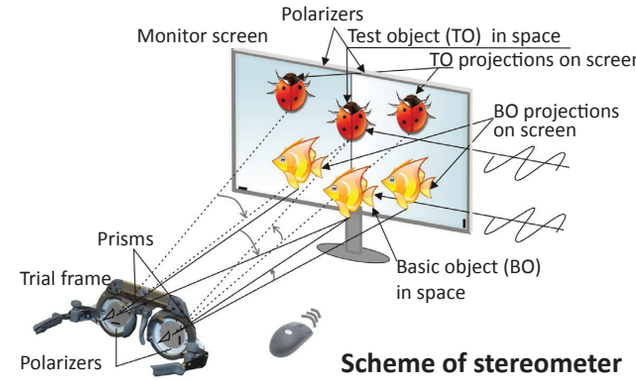
www.visus4d.eu

LET'S TRAIN STEREOVISION!

Stereometer VISUS-4D

For diagnosis, research and training of stereovision, stereomovement and stereoactivity

In many professions such as driving, construction, surgery, sports, tourism, etc. good stereovision and stereoaction is useful and often very necessary.



Scheme of stereometer

Accuracy of stereovision, stereomovements and stereoactivity can be trained.

The unique stereometer VISUS-4D consists of a PC, optical system and software. The stereometer is designed for diagnosis, research and training of acuity of stereovision – 3D and stereoactivity – 4D.

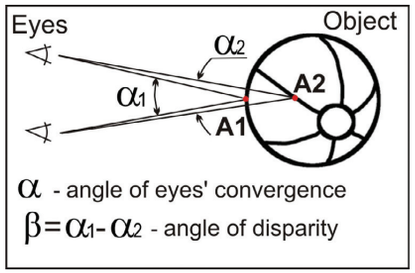
www.visus4d.eu

A person looking at the same object with the left and the right eyes sees it a bit differently. That difference is the foundation for the brain, mind and consciousness to create 3D or stereovision.

To watch 3D stereograms, stereoscopic photographs and 3D movies like Avatar 3D is enjoyable. But to see and move in surrounding stereoworld is even more fun.

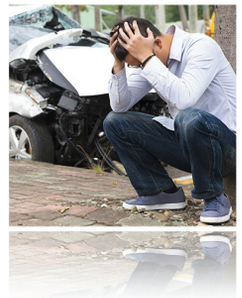
Depth perception model

The angle of convergence α indicates the distance to the object – 3rd or depth dimension. As the object is moving further away the angle of convergence decreases. The difference of convergence angles α1- α2=β is the angle of disparity. This angle indicates the difference of depth of objects and the distance among the dots of the object.



To adjust eye convergence to eye accommodation a simple optometric trial frame with polarizers and prisms is used.

To control fusion and stereovision different complementary details of objects for the left and right eyes can be used. The disparity and the distance between TO and BO can be assessed and shown with the help of a marker, i.e. a vertical line on the screen the length of which is proportional to them.



2 - 4% of people have strabismus, 10 - 15% of the world population have insufficient stereovision or are stereo-blind and about 20% of world traffic accidents occur due to the lack of stereovision and unawareness of it. Only because of above the worldwide damage exceeds 100 billion dollars every year.

Everyone is better to be aware of the acuity and quality of their stereovision, stereomotion and stereoactivity and to avoid an accident in life.

Purpose of stereometer VISUS-4D

The stereometer VISUS-4D allows to rapidly measure accuracy parameters of human stereovision and stereoactivity, response to change in distance between a software modelled basic object (BO) and a human controlled test object (TO) in a three-dimensional space (see stereometer scheme). Measurement accuracy can be up to one percent and less than millimeter or even more accurate. Taking this into consideration at work and in life may significantly reduce the probability and damage resulting from errors, accidents, etc.

Static stereo-acuity up to 1'-2' and dynamic-stereo-acuity up to 4'-6' may be considered as sufficient. Out of 15 individuals who had no stereovision only one of them failed to induce it by training in a few months.

Trainings increase the stereo-acuity. In trainings with the disparity of 6'-15' arcminutes the stereoscopic view corresponding the movement of hand and eyes is gradually accumulated and formed. By seeing the results and receiving references a trainee corrects the movements of hand and eyes gradually increasing stereo-acuity.

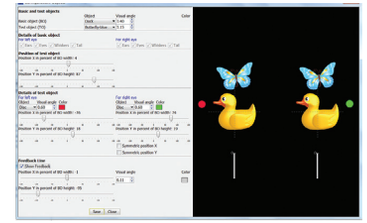
Evaluation and training of characteristics of stereovision by using the stereometer with feedback confirm its high integrity, precision and effectiveness.

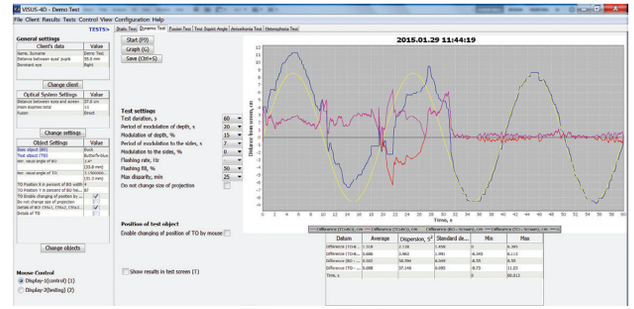
Moreover, in accordance with eyes, hands and fingers' movements it is possible to diagnose Parkinson's disease, to train biomechatronic hand and to measure a number of other matters more efficiently.

Test and training results are presented in precise graphs and tables.

Control and results windows of dynamic test:

The red great value line in the graph indicates considerable differences between test and basic objects' depth, i.e. is low or absent stereovision and the red small value line - slight differences between test and basic objects' depth, i.e.very good stereovision and stereoactivity.





Reviews

Prof. I. Rabichev, one of the most successful researchers in the world who has helped several thousand people to develop their stereovision, says that *"compared to similar purpose devices around the world, the stereometer VISUS-4D takes a leading place because it is integral – it combines technologies, psychology and life."*

Author of VISUS-4D stereometer Dr Mecislovas Vrubliauskas (on the left) with prof. Igor Rabichev

The stereometer has already been approved by prof. I. Rabichev, has been coordinated with other orthoptic means, and the model along with the method of the stereometer have been accepted for publication by ARVO 2015 (Association for Research in Vision and Ophthalmology) which is the biggest and the most prestigious organization of optometrists in the world.

Edita had strabismus since her childhood. With the help of VISUS-4D it turned out that treatment in her childhood had not provided her with stereovision. Her son also has strabismus. The mother is looking for a way out.

Agne and Rasa have been training for about a year with prof. I. Rabichev and using VISUS-4D:

"I am so happy to finally have stereovision after the eye training. But I am particularly happy for how my driving has improved. While driving I feel safer and more attentive, my mind wanders off less ." Agne

"I enjoy training and seeing in 3D." Rasa

VISUS-4D has been used in the Vision Development Centre in Klaipeda, Lithuania, for more than 20 years now. Special pedagogues working in this centre together with an ophthalmologist trained a group of several selected pre-school children. After only 6 months of training with VISUS-4D one of the girls has developed stereovision.

"Dentistry, like other specialties of such precision, requires high acuity of vision and stereovision. It is even more important in team work.

We use the stereometer VISUS-4D to measure stereo-acuity of employees and to check their alertness during activities. That is why VISUS-4D is very useful when selecting a team and guaranteeing services of high quality and precision.

Those who have insufficient stereovision can be aware of it and train it or make changes in their activities or professional lives."/ dr.I. Ivance, CEO and dentist at VivaDens, Aesthetic Dentistry Center

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