



Operational Based Vision Assessment (OBVA) Program

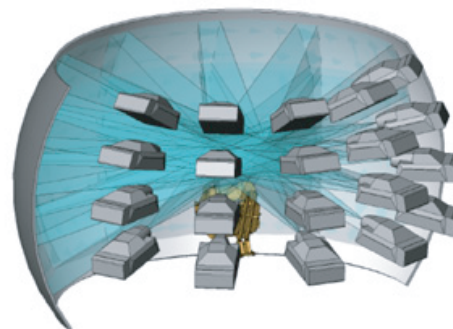
Objective OBVA will provide the US Air Force (USAF) with a sound scientific basis upon which to determine its vision standards. Current standards are based on historical and observational science, and technologies do not currently exist to allow Air Force Medical Service to validate or correlate clinical/laboratory visual performance measures with the visual performance requirements of operational tasks. The objectives of the OBVA program are to 1) Develop operational measurements that validate and help set vision standards, and 2) Provide the Air Force with more accurate criteria and understanding of vision requirements based on actual operational tasks

Approach The OBVA laboratory will consist of a high fidelity synthetic environment (simulator) to perform experiments and explore the relationship of clinical measurements of vision with actual aviator performance, during simple and complex operational visual tasks. The program is currently in a two-year Technology Development (TD) phase (September 2008 to August 2010). During the TD phase, experimental methodologies will be developed to show correlation between pilot vision and operation performance. Additionally, current and anticipated capabilities of simulator components (particularly projector technologies and image generation technologies) will be determined and used to develop a specification for the OBVA laboratory that will meet or exceed the experimental requirements.

Impact Our work on OBVA will help the Air Force leadership raise, lower or retain current visual standards based on the knowledge of how people meeting those standards will perform visually in an operational setting. It can also be used to determine the effects of refractive surgery, pharmaceuticals, and other future technologies on vision performance. The net result will be more effective and safer operations.



Current Part-Task Simulator



Potential Configuration for Final
OBVA Simulator

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