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## Atmospheric Turbulence

This system is based on a spatial light modulator (SLM) to simulate a beam affected by atmospheric turbulence, and then the simulated beam can be wavefront tested; and the beam passing through the physical atmospheric turbulence device can be wavefront detected at the same time.

Usually the effect of light waves of atmospheric turbulence is that when light passes through the atmosphere, the wavefront of light is distorted due to the atmospheric turbulence effect, which changes the information related to the light waves. Based on the phase modulation function of SLM, it can be used to change the phase of light waves to simulate the effect of atmospheric turbulence on light, and can be used to do simulation research on the effect of atmospheric turbulence on light waves.

### Functions

- | Realize the calculation of atmospheric turbulence phase diagram
- | Generates blazed gratings that can be superimposed on kinoforms
- | Load a phase map to the modulator and modulate the display
- | The phase map under different parameters can be adjusted in real time, such as Zernike: parameter settings: turbulent atmospheric coherence length, coefficient variance, beam aperture
- | Display phase diagram, pictures/folders can be imported and saved
- | Play the picture set (for example, you can set the playback frame rate to 20Hz)
- | The picture position can be translated along the XY plane, mirrored horizontally and vertically, and rotated