

1 Introduction

This manual is intended as reference guide to show you around the wavefront generation code of Adaptive Optics in Python. This manual will comprise of a description of the classes as well as their methods and functions. As far as is reasonably necessary, an example is included.

As current, the WFG part includes two classes. One class on the Zernike aberrations. The second class is on the stochastic behaviour of the the wavefront, as for example Kolmogorov behaviour.

2 Zernike Functions

2.1 zernike

`Z = zernike(rho, theta, u, v = None):`
Returns

2.2 zernikeIndex

`u, v = def zernikeIndex(i):`

3 ZernikeWave Class

3.1 Constructor

3.2 addMode

3.3 changeModeWeight

3.4 removeMode

3.5 modeExists

3.6 getModes

3.7 getWeights

3.8 createWavefront

3.9 decomposeWavefront

3.10 plotMode

3.11 plotWavefront

4 PhaseScreen Class

4.1 Constructor

4.2 setType

4.3 getType

4.4 setParams

4.5 getParameters

4.6 createWavefront

4.7 kolmogorov

4.8 vonkarman

4.9 plotWavefront

5 Support functions

5.1 kroneckerDelta

5.2 gamma2

5.3 cart2pol

5.4 pol2cart

5.5 createGrid

5.6 circ