Imaging through turbulent media

“Looking Up”
Imaging through turbulent media

“Looking Up”
"Looking across or down"

<table>
<thead>
<tr>
<th>Aberrated</th>
<th>Corrected</th>
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Isoplanatic patch size

D/r₀ = 7.7
(e.g. 50 cm aperture at 700 nm in daylight conditions, nadir pointing from 10000 m altitude)

Pristine  Diffraction limited

Correction across 30x the isoplanatic angle!
“Looking through clouds”

Friend or Foe?

F-111

F-18

Atomic filters – Ca and Rb (~ 420 nm is in window for underwater)
-10^5 background rejection