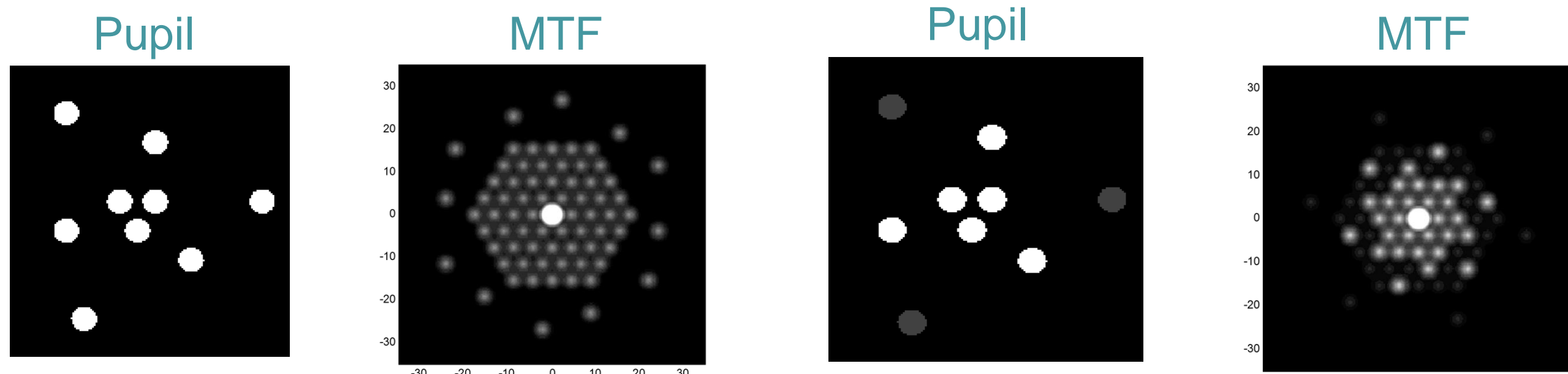




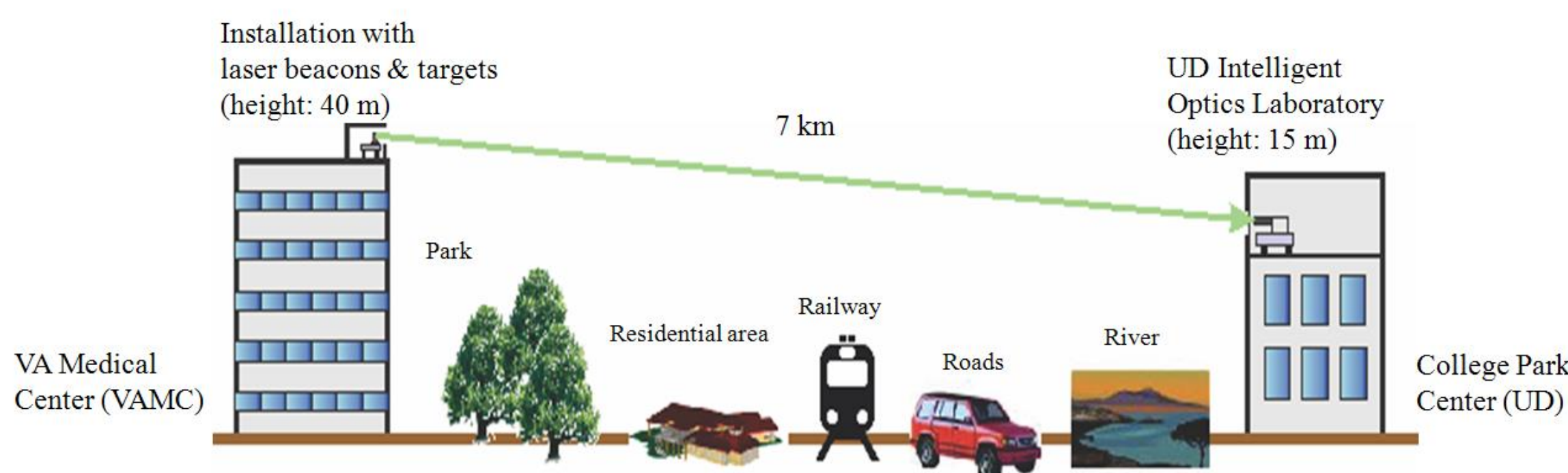
Capabilities and Qualifications

Sparse Aperture System Design & Modeling

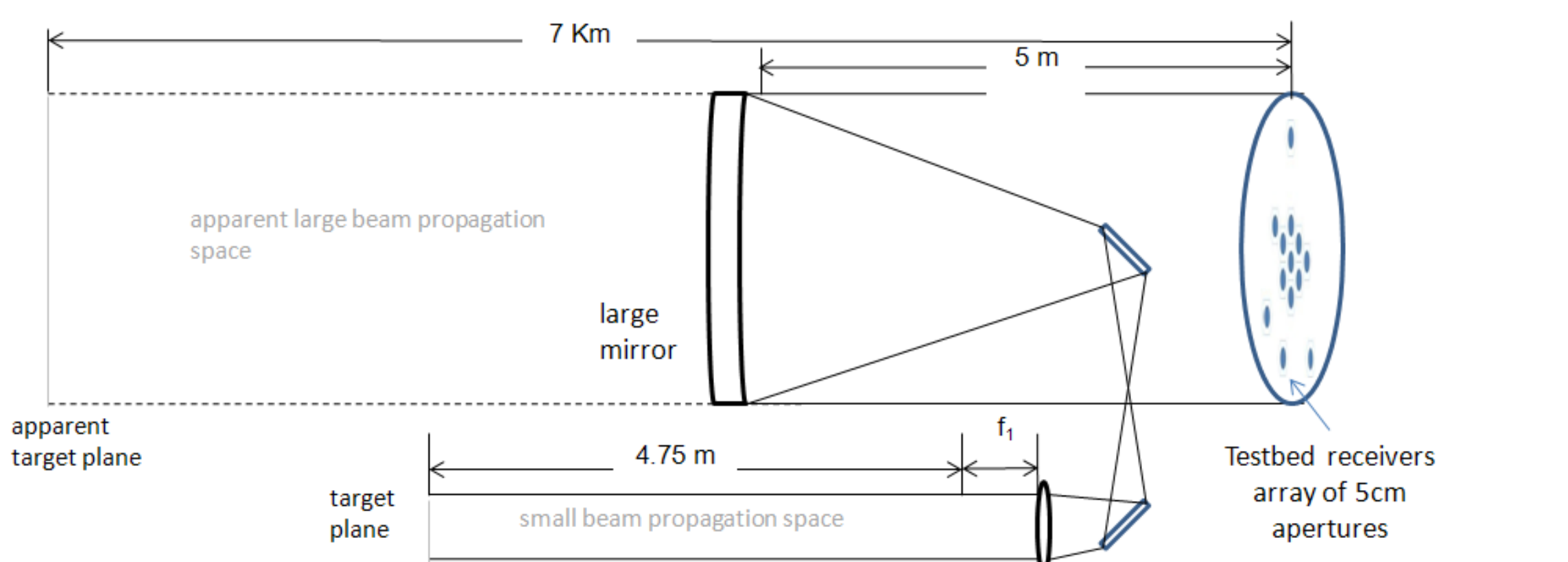


A. J. Stokes et al, "Increasing Mid-frequency Contrast in Sparse Aperture Optical Imaging Systems"

Intelligent Optics Lab - Long Atmospheric Path Turbulence (Outdoor range)



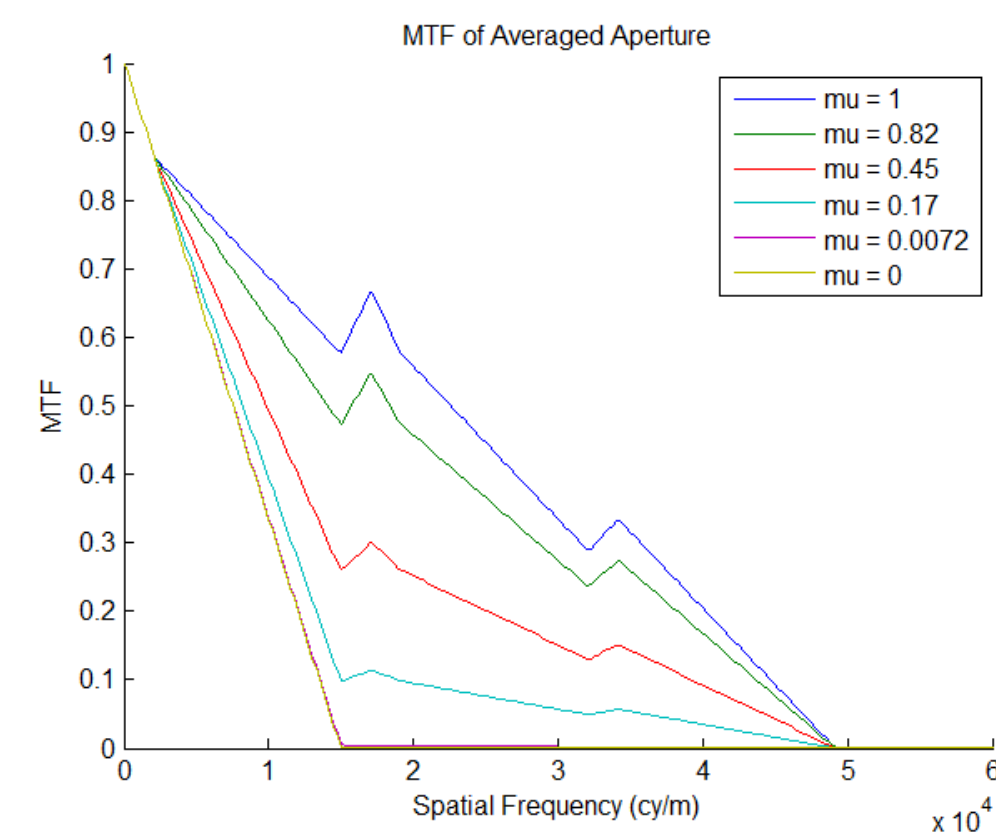
Compact Range (indoor)



Coherence Theory

$$\therefore \langle I \rangle = NI_{ob} [1 - \mu + \mu NF^2]$$

E. Watson, "Partial Coherence Theory of Optical Phased Arrays"



Optical Design & Radiometry

Photon Counting System Modeling

Radar Signal Processing

Sparse aperture optimization

Integrated Software/Hardware

Solutions for Sensor Systems

Sensor System Testing (Open Skies)

Integrated RF/EO Sensing & Exploitation

ITAR FACILITY

Support Research Through:

Transition of active sparse aperture imaging (EO & Radar)

Sparse aperture system model & analysis

Sensor test & evaluation

Proof of concept experiments (in/out door)

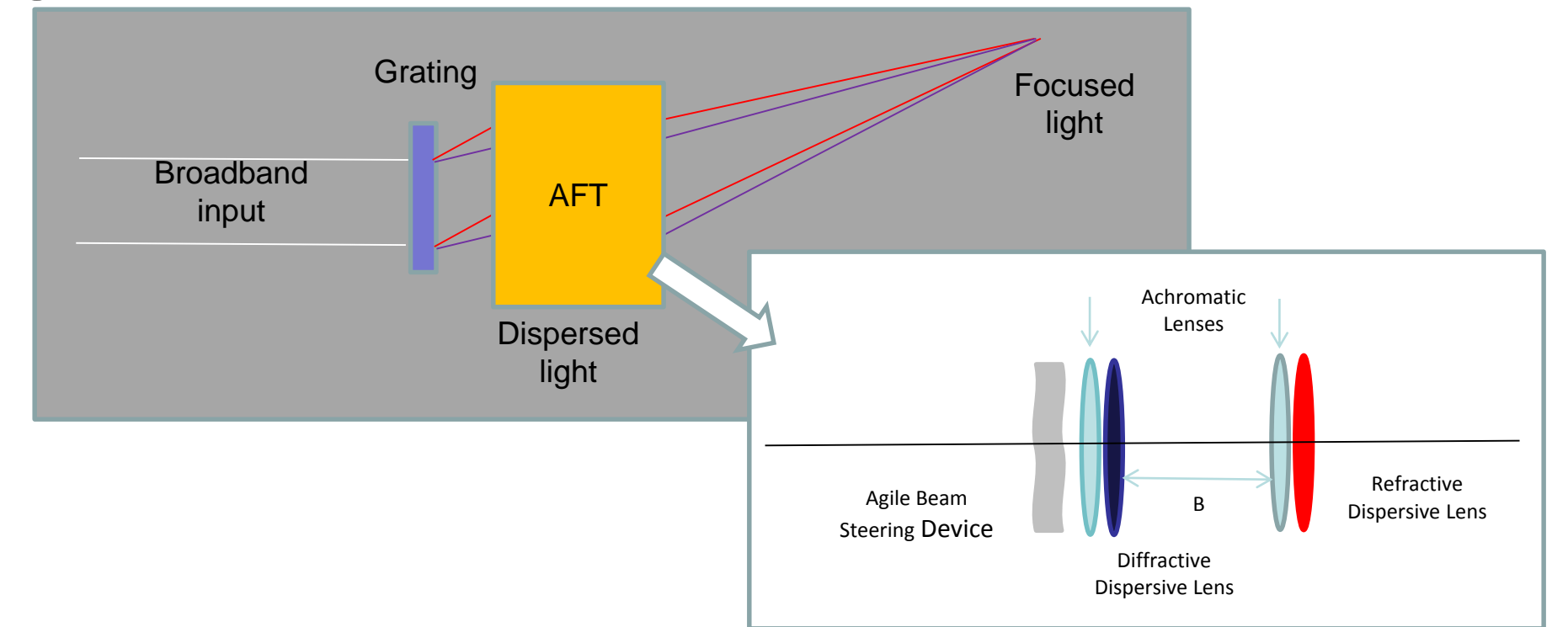
Research Interests

Passive interferometric imaging

Generalized van Cittert-Zernike theorem for sparse aperture imaging (optical & digital)

Optical Phased Arrays

Agile, achromatic diffractive systems



Deep turbulence understanding

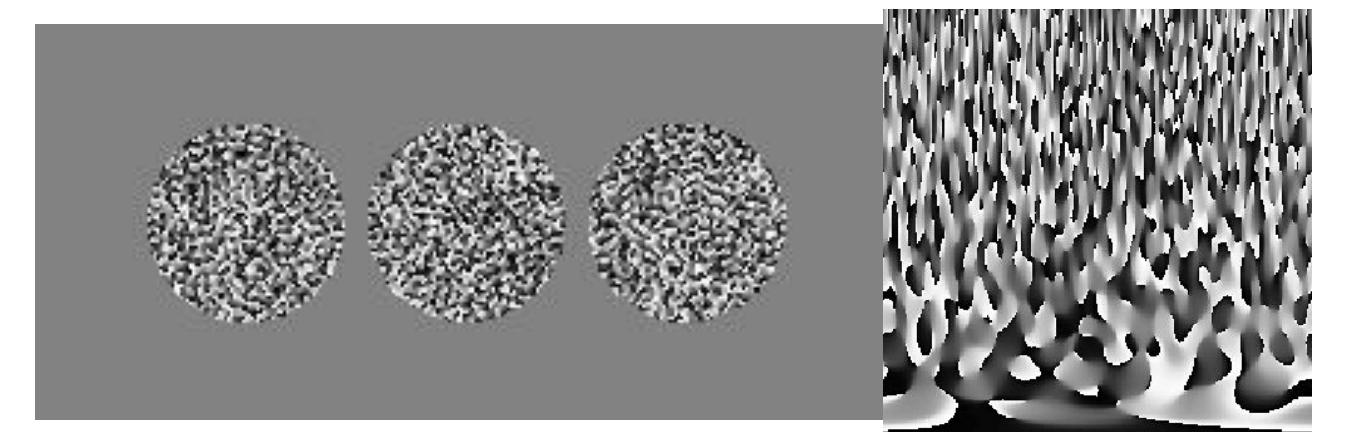
MURI - Wave Optics of Deep Atmospheric Turbulence: From Underlying Physics towards Predictive Modeling, Mitigation and Exploitation

Dr. Mikhail Vorontsov, PI



Sparse aperture phasing

B. Gunturk et al, "Camera phasing in multi-aperture coherent imaging"

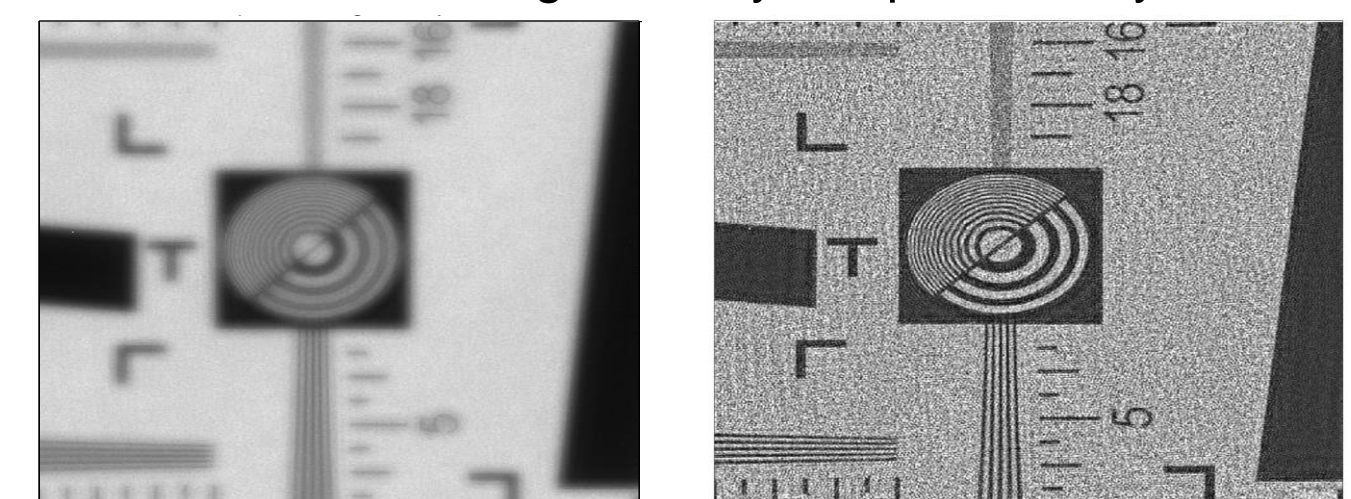


Polarization imaging of satellites

Digital Holography

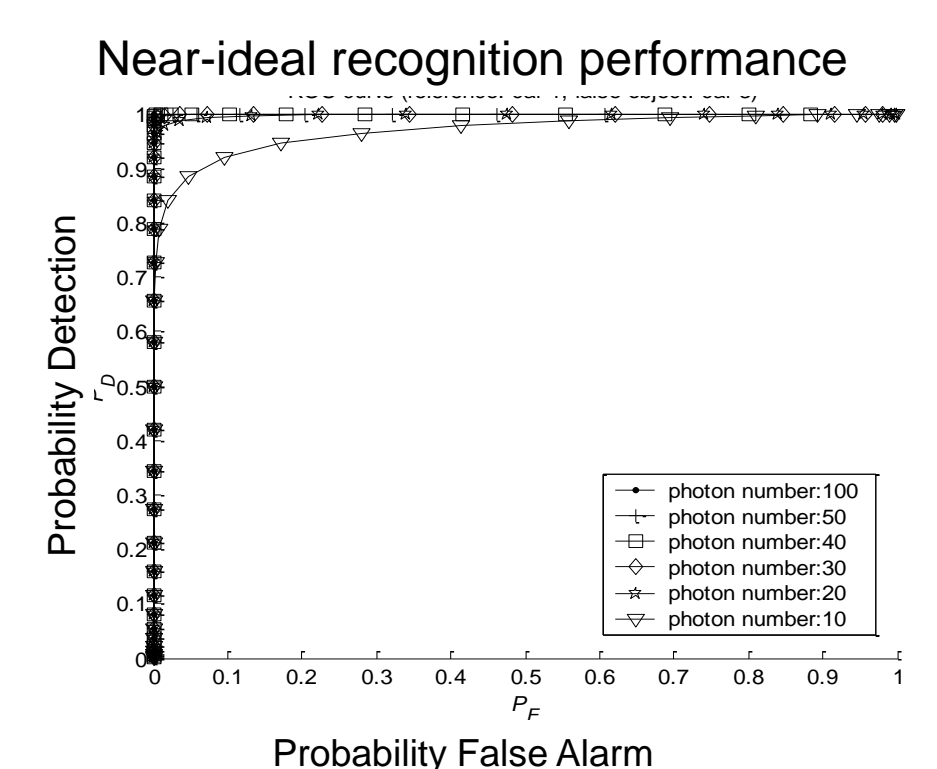
Image recovery and enhancement

Wiener Filtering of Golay-9 Sparse Array



De-noising photon counting imagery

Recognition with Extremely Low Light Level Imagery



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