

OPTIMIZED APERIODIC STRUCTURES FOR COUNTERMEASURE APPLICATIONS

Summer Flowers

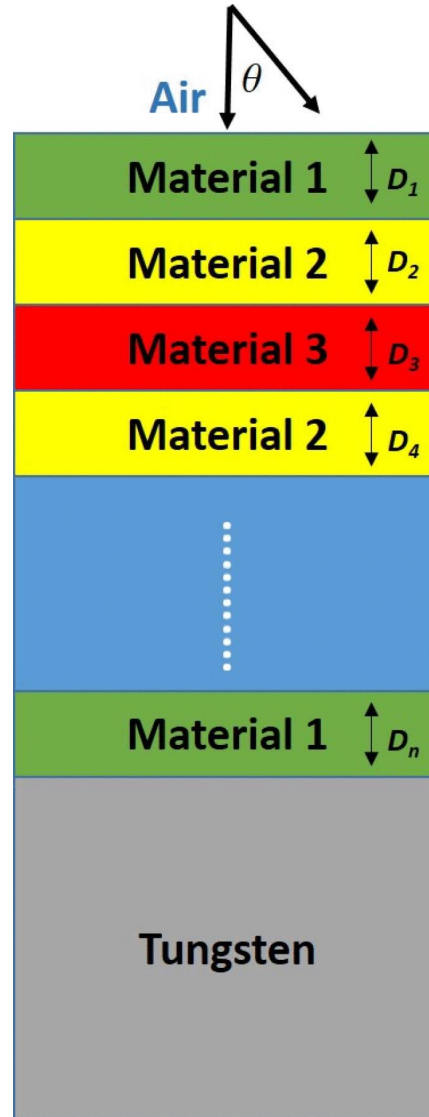
Mentors: Dr. Georgios Veronis & Christopher Granier

The Big Picture

We generate structures with high broadband emittance in the infrared wavelength range (3-5 microns) that can be used as countermeasures against forward looking infrared (FLIR) systems.



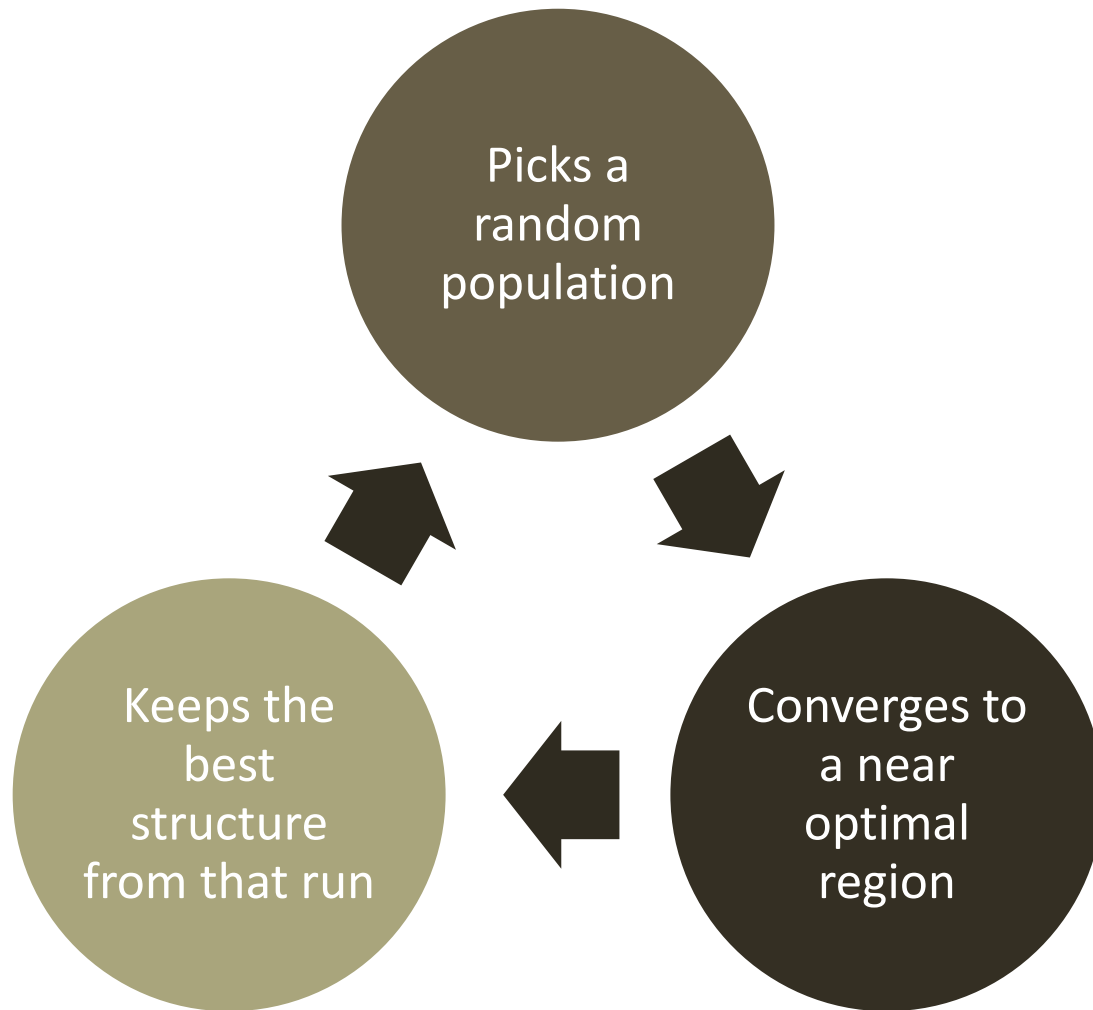
What was optimized?



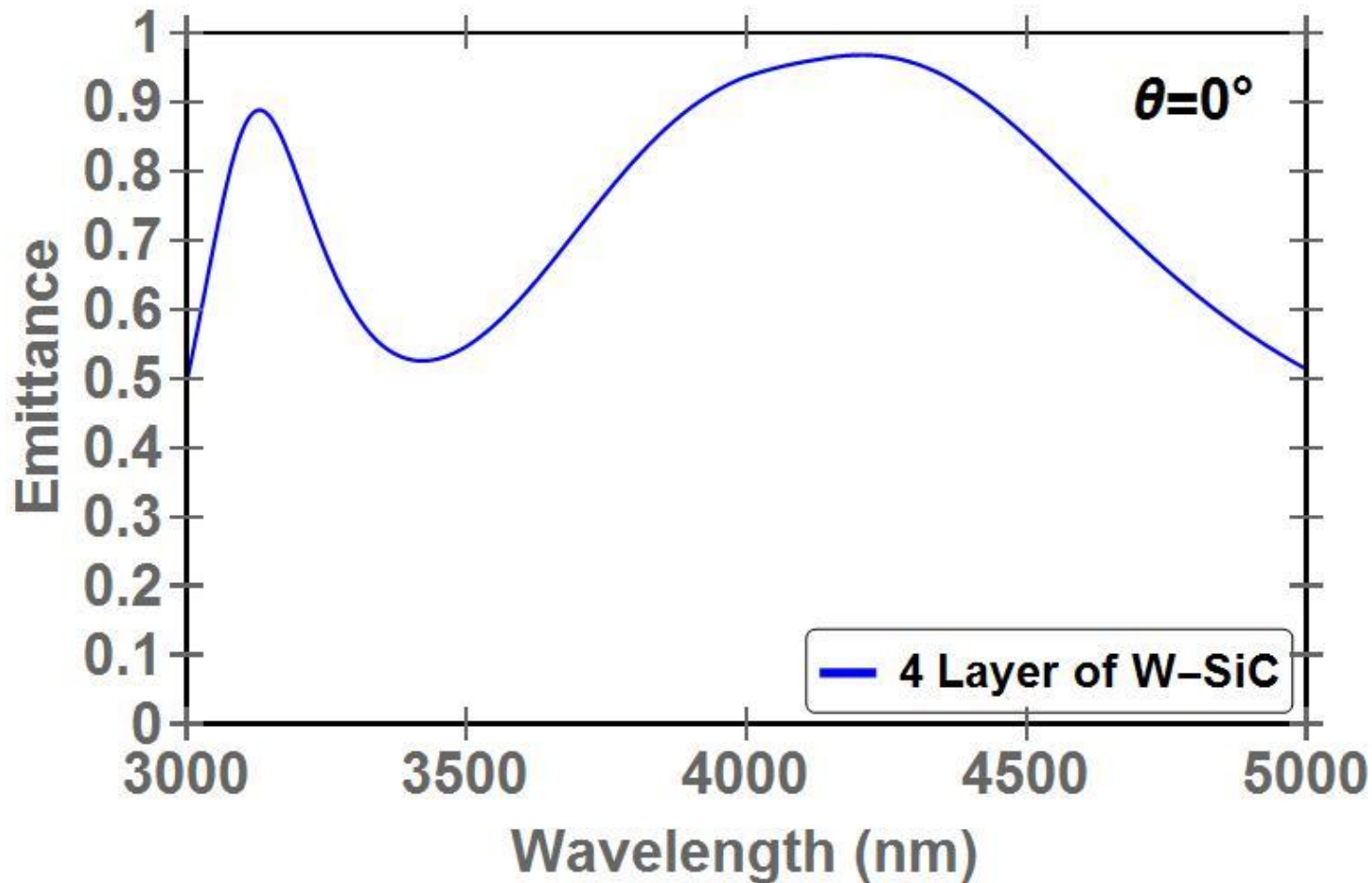
J. Appl. Phys. 116, 243101 (2014);
<http://dx.doi.org/10.1063/1.4904905>

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Micro Genetic Algorithm

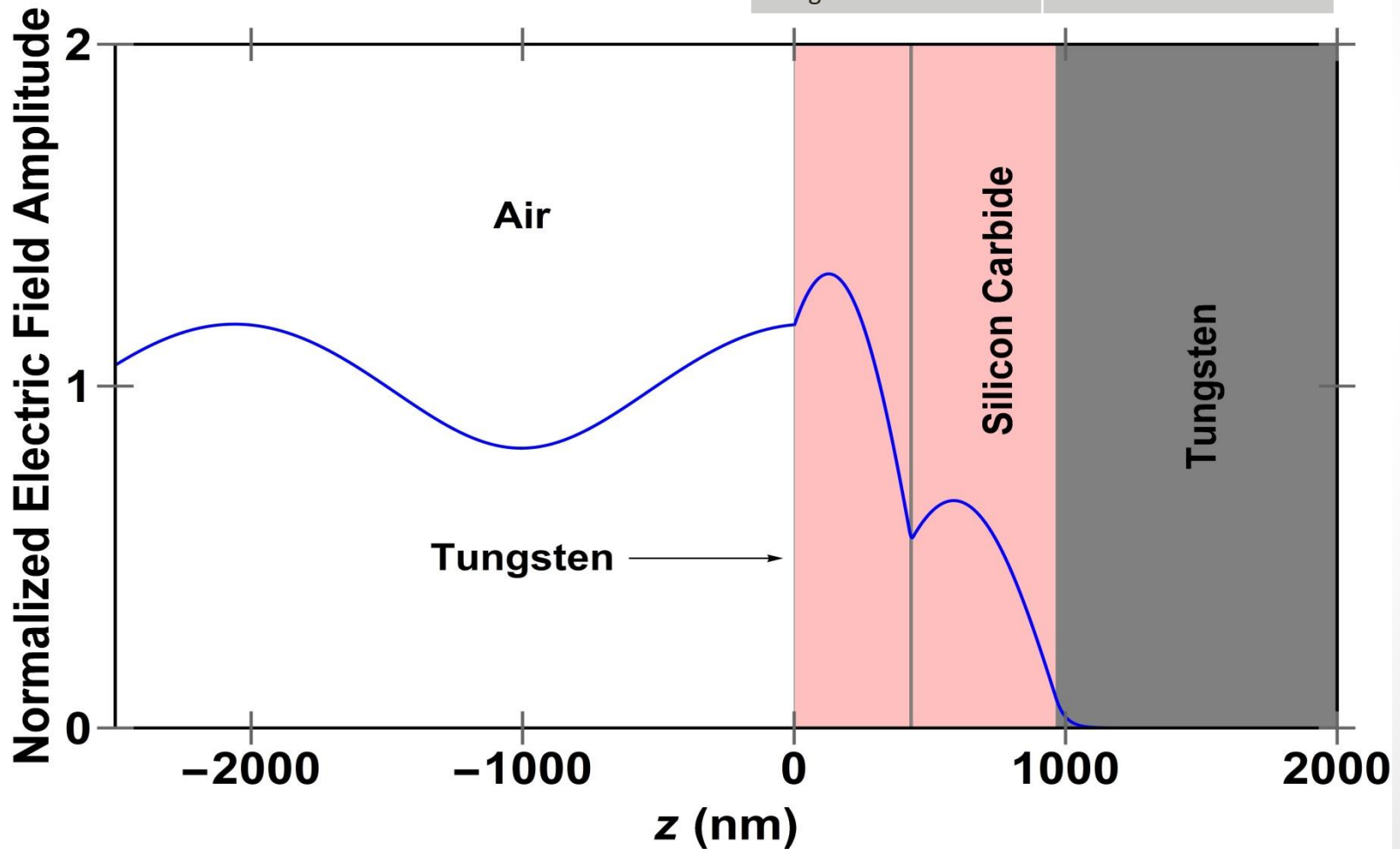


Emittance Results

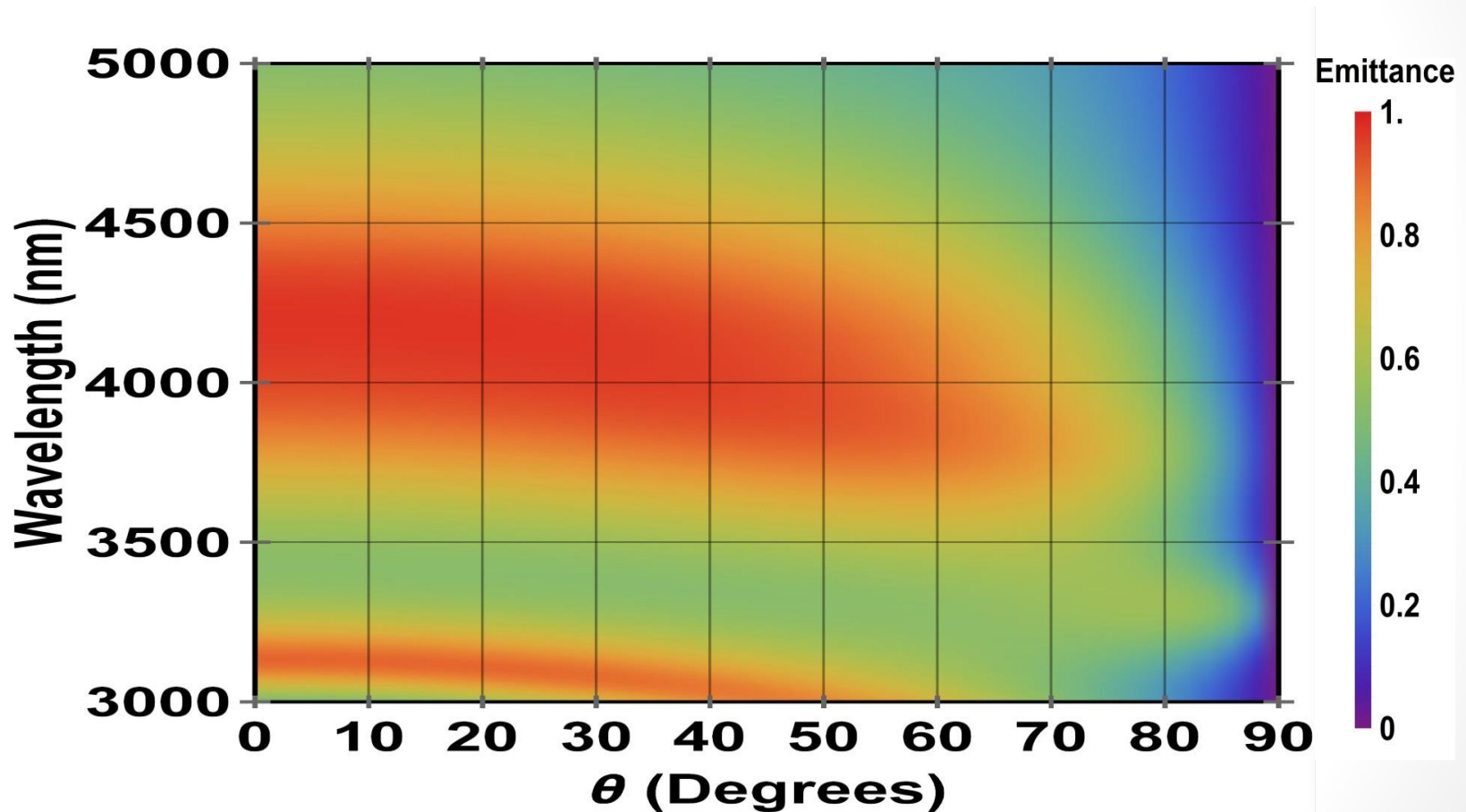


Field Plot

Material	Loss Value
Tungsten	0.439
Silicon Carbide	0.001
Tungsten	0.541
Silicon Carbide	0.
Tungsten	0.02



Broadband Emittance



Questions?