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Laser Environment Education Device (LEED): A Turbulence Theory Demonstrator BRIAN KAY, MICHAEL BISHOP, DARRYL SANCHEZ, TYLER HARDY, Air Force Research Lab - Kirtland, DENIS OESCH, Leidos — Education in atmospheric turbulence theory is required to meet the increasing needs of next generation imaging techniques. Sea-, air-, and land-based optical systems are continually plagued by wavefront aberrations caused by ever changing atmospheric conditions. Recognizing the challenges associated with wavefront theory education, and the increasing need to dynamically motivate and inspire future scientists, the Quantum Optics Research Team at the Air Force Research Laboratory is developing the Laser Environment Education Device (LEED). LEED is a portable atmospheric turbulence simulator which uses common parts to demonstrate the negative effects atmospherics have on optical-based systems. A summary of the system design, physical effects demonstrated, and curriculum for this teaching technical approach is presented.

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