

Pressure-Gain Combustion Clean Efficient Jet Engines and Power Plants

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The gas turbine has been an enormously successful power plant for aircraft and marine propulsion, and electric power generation, due to its light weight, smooth and reliable operation, low emissions, and varied applications. Nevertheless, it is not very efficient in converting fuel energy to useful work, due to fundamental thermodynamic limitations imposed by turbomachinery technology. I am investigating potential alternative thermodynamic cycles and pulsed combustion systems for propulsion and gas turbine applications, developing a key new component called a wave rotor combustor.