

Personal power systems: Microjet flames and thermophotovoltaic systems

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### Abstract

In this paper, issues of opportunities and challenges associated with high energy-density combustion systems appropriate for personal power applications are reviewed. Specifically, the outstanding features of the flame structure, chemical kinetics and flame stabilization mechanism of microjet diffusion flames, and a novel meso-scale combustor design for thermophotovoltaic (TPV) systems using liquidfuel-film with central-porous fuel inlet are analyzed and discussed.

Keyword : Personal Power Systems; Microjet Flames; Thermophotovoltaic Systems