

Computational approach in sizing of pulsejet engine

ABSTRACT

Research in pulsejet has intensified recently due to its design simplicity that can be developed into efficient small scale propulsive units for new applications such as UAVs and Unmanned Combat Vehicles (UCAV). A major obstacle for its development is low efficiency of the engine. The objective of this research is to investigate the possibility of using pulsejet in certain applications where the pulsejet can trade its low efficiency with low cost, simple design, and light weight. Numerical analysis is used for analysing the pulsejet engine design. The main results drawn from this research is in increasing efficiency and improving performance of engine by improving size of engine, especially diameter of combustion chamber. The computed results show good resemblance with published data.

Keyword: Micro-propulsion; Pulse detonation engine; Pulsejet; Thrust augmentation