

Hydrogen steam generators for stationary energy applications

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Analysis of energy efficiency of different technologies shows that for power level lower than 1 MW the most efficient technology are fuel cells and for higher power levels hydrogen combustion turbo- and hybrid systems are preferable.

In Laboratory for Hydrogen Energy Technologies of Joint Institute for High Temperatures in cooperation with Chemical Automatics Design Bureau and Keldysh Center the key part of hydrogen combustion technology is created – hydrogen steam generators for autonomous steam turbine units, for upgrade or newly built power stations. We present results of process investigations and fire tests of experimental 25 MW and 100 kW H₂/O₂ steam generators.

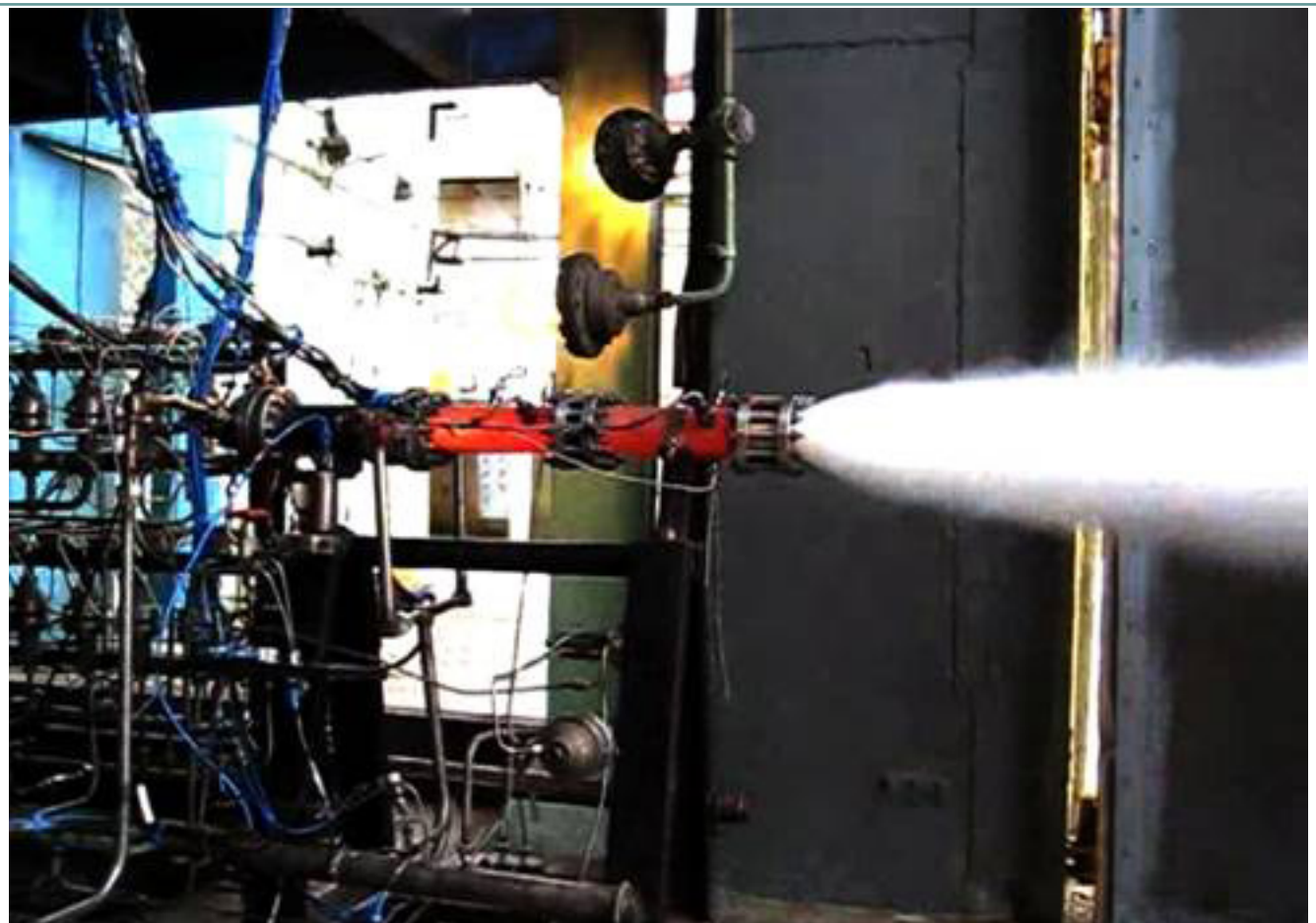


Fig. 1. Fire test of 25 MW steam generator at KBKhA site