

## AN EFFECTIVE BURNING DEVICE

V. M. Nikolaev and V. M. Shmelev

N. N. Semenov Institute of Chemical Physics, Russian Academy of Sciences, 4 Kosygin Str., Moscow 119991, Russian Federation

**Abstract:** The combustion process for air–natural gas mixtures was studied in the burning device of high performance. Reduction of such harmful combustion products as nitric oxides and carbon monoxide up to the level less than 5 ppm was reached without usage of any catalysts at the air–fuel ratio of 1–1.1.

**Keywords:** burning device; radiation burner; ecology

### References

1. Rodin, A. K. 1987. *Gazovoe luchistoe otoplenie* [Gas radiative heating]. Leningrad: Nedra. 191 p.
2. Shmelev, V. M. 2010. Combustion of natural gas at the surface of a high-porosity metal matrix. *Russ. J. Phys. Chem. B* 4:593–601.

*Received December 29, 2016*

### Contributors

**Nikolaev Vladimir M.** (b. 1975) — Candidate of Science in physics and mathematics, leading research scientist, N. N. Semenov Institute of Chemical Physics, Russian Academy of Sciences, 4 Kosygin Str., Moscow 119991, Russian Federation; vm-nikolaev@mail.ru

**Shmelev Vladimir M.** (b. 1940) — Doctor of Science in physics and mathematics, head of laboratory, N. N. Semenov Institute of Chemical Physics, Russian Academy of Sciences, 4 Kosygin Str., Moscow 119991, Russian Federation; shmelev@chph.ras.ru