

# Particle creation by a black hole as a consequence of quantum-field effects in flat space-time

Nugayev R.

*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

---

## Abstract

The application of quantum-field flat-space-time results to a black hole reveals the domain and the mechanism of particle creation. The Hawking radiation is «squeezed out» by the tail of gravitational-field potential barrier in the  $[1.5 R_g, \infty]$  region. Its black-body spectrum is due to the interaction of virtual particles with the «cavity» formed by the potential barrier. © 1985 Società Italiana di Fisica.

<http://dx.doi.org/10.1007/BF02732275>

---

## Keywords

PACS. 97.60 Late stages of stellar evolution (including black holes)