

## Empirical justification of the Hawking effect

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### Abstract

Empirical justification of the Hawking effect is carried out by adaptation of quantum field flat-spacetime results. Hawking evaporation appears to be a manifestation of van der Waals forces between closely spaced bodies at different temperatures. The arguments supporting the school of thought according to which blackbody radiation is created in the vicinity of the horizon are strengthened. Two early stages of evaporation are described. A new result for the vacuum expectation value of the electromagnetic stress tensor under the horizon is obtained. © 1991 The American Physical Society.

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