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**The application of homotopy analysis method to nonlinear equations arising in heat transfer.**  
(English) [Zbl 1236.80010](#)  
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Summary: Here, the homotopy analysis method (HAM), which is a powerful and easy-to-use analytic tool for nonlinear problems and does not need small parameters in the equations, is compared with the perturbation and numerical and homotopy perturbation method (HPM) in the heat transfer field. The homotopy analysis method contains the auxiliary parameter  $\hbar$ , which provides us with a simple way to adjust and control the convergence region of solution series.

**MSC:**

80M25 Other numerical methods (thermodynamics) (MSC2010)  
80A20 Heat and mass transfer, heat flow (MSC2010)

Cited in **1** Review  
Cited in **212** Documents

**Keywords:**

[fin radiation](#); [homotopy analysis method](#); [perturbation method](#); [homotopy perturbation method](#)

**Full Text:** [DOI](#)

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