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# THERMAL SCIENCE

## International Scientific Journal

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### SOLUTION OF ONE-DIMENSIONAL MOVING BOUNDARY PROBLEM WITH PERIODIC BOUNDARY CONDITIONS BY VARIATIONAL ITERATION METHOD

#### ABSTRACT

In this paper, the solutions of the one dimensional moving boundary problem with periodic boundary conditions is obtained with the help of variational iterative method. By using initial and boundary values, the explicit solutions of the equations have been derived, which accelerate the rapid convergence of the series solution. The method performs extremely well in terms of efficiency and simplicity. The temperature distribution and the position of moving boundary are evaluated and numerical results are presented graphically.

#### KEYWORDS

[moving boundary problem](#), [variational iteration method](#), [temperature distribution](#), [interface position](#), [Lagrange multiplier](#), [Mittag-Leffler function](#), [finite volume method](#)

PAPER SUBMITTED: 2008-08-14

PAPER REVISED: 2008-10-05

PAPER ACCEPTED: 2008-10-09

DOI REFERENCE: [TSCI0902199R](#)

CITATION EXPORT: [view in browser](#) or [download as text file](#)

THERMAL SCIENCE YEAR 2009, VOLUME 13, ISSUE 2, PAGES [199 - 204]

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