

**Singh, I. V.**

**A numerical solution of composite heat transfer problems using meshless method.** (English)

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[Int. J. Heat Mass Transfer](#) 47, No. 10-11, 2123-2138 (2004).

This paper is devoted to the numerical study of solutions to some classes of composite heat transfer problems. The approach is essentially based on the meshless element free Galerkin method. The steady state and transient analysis of the composite problems are carried out in three-dimensional domains. The discretization of the governing equations relies upon adequate variational methods. The numerical results obtained in the present paper can be extended to complex three-dimensional problems.

Reviewer: [Teodora-Liliana Rădulescu \(Craiova\)](#)

**MSC:**

- [80M25](#) Other numerical methods (thermodynamics) (MSC2010)
- [49M15](#) Newton-type methods
- [65M60](#) Finite element, Rayleigh-Ritz and Galerkin methods for initial value and initial-boundary value problems involving PDEs
- [65N30](#) Finite element, Rayleigh-Ritz and Galerkin methods for boundary value problems involving PDEs
- [80M30](#) Variational methods applied to problems in thermodynamics and heat transfer
- [80A20](#) Heat and mass transfer, heat flow (MSC2010)

Cited in **20** Documents

**Keywords:**

[meshless method](#); [Galerkin method](#); [variational method](#); [Lagrange multiplier technique](#); [three-dimensional heat transfer in composites](#)

**Software:**

[Matlab](#)

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