World Academy of Science, Engineering and Technology
International Journal of Energy and Power Engineering
Vol:9, No:01, 2015

On the Blocked-off Finite-Volume Radiation Solutions in a Two-Dimensional Enclosure

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Abstract : The blocked-off formulations for the analysis of radiative heat transfer are formulated and examined in order to find the solutions in a two-dimensional complex enclosure. The final discretization equations using the step scheme for spatial differencing practice are proposed with the additional source term to incorporate the blocked-off procedure. After introducing the implementation for inactive region into the general discretization equation, three different problems are examined to find the performance of the solution methods.

Keywords : radiative heat transfer, Finite Volume Method (FVM), blocked-off solution procedure, body-fitted coordinate
Conference Title : ICCEUT 2015 : International Conference on Combustion, Energy Utilisation and Thermodynamics
Conference Location : Paris, France
Conference Dates : January 23-24, 2015