عنوان مقاله:

Application of the Electrical Equivalent Networks to Hyperbolic Heat Conduction in Two-Layer Slab

محل انتشار:

بیست و یکمین همایش سالانه بین المللی مهندسی مکانیک (سال: 1392)

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خلاصه مقاله:

Hyperbolic heat conduction in one dimensional twolayer finite slab under periodic boundary condition is investigated by using the electrical network simulation method. With this new simple proposed model and using the electrical circuit simulation program HSPICE, transient temperature and heat flux profiles at nodes in slab can be obtained. In order to verify this numerical method's reliability, the solutions are compared with analytical solutions. The ratio of parameters in two layers varied in order to study the spatial and temporal temperature and heat flux associated with hyperbolic heat conduction.

کلمات کلیدی:

hyperbolic heat conduction, electrical simulation, two-layer, periodic boundary temperature