

A New Algorithm For Solving Isothermal Carbonization Of Wood Particle

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Abstract : A new algorithm based on the lattice Boltzmann method (LBM) is proposed as a potential solver for one-dimensional heat and mass transfer for isothermal carbonization of thick wood particles. To check the validity of this algorithm, computational results have been compared with the published data and a good agreement is obtained. Then, the model is used to study the effect of reactor temperature and particle size on the evolution of the local temperature and mass loss inside the wood particle.

Keywords : Lattice Boltzmann Method, pyrolysis, conduction, carbonization, Heat and mass transfer.

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