Abstracts

Integer lattice gas automata for computational electromagnetics

J.R. Treurniet, N.R.S. Simons and G.E. Bridges. "Integer lattice gas automata for computational electromagnetics." 2000 Transactions on Microwave Theory and Techniques 48.6 (Jun. 2000 [T-MTT] (Mini-Special Issue on the 1999 IEEE Radio and Wireless Conference (RAWCON))): 985-990.

Integer lattice gas automata (ILGA) are combined with the transmission-line matrix (TLM) method to yield a new electromagnetic-field computation algorithm using very low-precision integer variables. Lattice gas automata can be evaluated using look-up tables on special-purpose hardware and do not require floating-point arithmetic. In this paper, we present a TLM motivated ILGA with emphasis placed on algorithms that demonstrate minimal dissipation.

❑ Return to main document.