

- ▶ JAMES LATHROP, JACK H. LUTZ, BRIAN PATTERSON, *Multi-Resolution Cellular Automata for Real Computation.*

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This paper introduces multi-resolution cellular automata (MRCA), a multi-resolution variant of cellular automata. Cells in an MRCA are allowed to “fission” one or more times during the course of execution. At any given time, the MRCA may thus be carrying out computations on a variety of spatial scales. Our main theorem uses the MRCA model to give a natural characterization of the computability of sets in Euclidean space, provided that their boundaries are computably nowhere dense.