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Sommario/riassunto

A cellular automaton is a discrete model studied in computability theory, mathematics, physics, complexity science, theoretical biology and microstructure modeling. It consists of a regular grid of cells, each in one of a finite number of states, such as "On" or "Off". The grid can be in any finite number of dimensions. For each cell, a set of cells called its neighborhood (usually including the cell itself) is defined relative to the specified cell. This book presents current research from across the globe in the study of cellular automata, including using cellular automata to solve optimization problems; modeling drug release science using cellular automata; using the cellular automata model to study the dispersion of aphids and ladybugs in a block of citric trees; and the reversibility of cellular automata.