DESIGN OF DIGITAL LOGIC CIRCUITS USING QUANTUM DOT CELLS

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QCA is a novel emerging technology in which logic states are not stored as voltage levels, but rather the position of individual electrons. Conceptually, QCA represents binary information by utilizing a bistable charge configuration rather than a current switch. Unlike conventional logic circuits in which information is transferred by electrical current, QCA operates by the Coulombic interaction that connects the state of one cell to the state of its neighbours. Hence the information transfer (interconnection) is the same as information transformation (logic manipulation) in the QCA technology.

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