Sudden switching in qubits KHAZHGERY SHAKOV, JIM MCGUIRE, LEV KAPLAN, Tulane University, DMITRY USKOV, Louisiana State University, ATHANASIOS CHALASTARAS, Tulane University — We present an analytic description of the dynamics of a two-state system strongly perturbed by a series of rapidly changing pulses ('kicks'). The evolution matrix for a series of kicks is expressed as a time ordered product of single pulse matrices. The effects of time ordering for different sequences of pulses are analyzed. The detailed results are given for a single pulse and combinations of two or three pulses. Generalization into an arbitrary number of pulses is also discussed. The effects of a finite width of the pulses are studied numerically.

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Date submitted: 26 Jan 2005

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