

Probabilistic Modeling Laser Transmitter

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Abstract : Coupled electrical and optical model for conversion of electrical energy into coherent optical energy for transmitter-receiver link by solid state device is presented. Probability distribution for travelling laser beam switching time intervals and the number of switchings in the time interval is obtained. Selector function mapping is employed to regulate optical data transmission speed. It is established that regulated laser transmission from PhotoActive Laser transmitter follows principal of invariance. This considerably simplifies design of PhotoActive Laser Transmission networks.

Keywords : computational mathematics, finite difference Markov chain methods, sequence spaces, singularly perturbed differential equations

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