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Ultrashort pulse propagation through three level medium¹ TUGULDUR BEGZJAV, ANATOLY SVIDZINSKY, Texas AM University, MARLAN SCULLY, Texas AM University, Princeton University, Baylor University — By using Bcklund transformation for the Maxwell-Bloch equations we study propagation of short pulses through medium composed of three level atoms. We obtain general matched pulse solutions that preserve their shape and amplitude during propagation. We also analyzed solutions for a variety of initial conditions by numerical simulations. Our result could be useful for development of quantum optical transmission lines.

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Tuguldur Begzjav Graduate student

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