

Abstract Submitted
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On Exact Solutions of Novel Multistate Landau-Zener Problems.¹

ANIKET PATRA, EMIL YUZHASHYAN, Rutgers University — A multistate Landau-Zener (MLZ) Hamiltonian is used to model numerous non-equilibrium experiments involving cold atoms, quantum dots and quantum dot molecules. We recently showed that all the known MLZ problems either reduce to the 2×2 Landau Zener problem or belong to a family of mutually commuting Hamiltonians (that are polynomial in time).² Based on this classification we identify previously unknown MLZ problems, explicitly obtain their solutions and discuss relevant experimental scenarios.

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²A. Patra and E. A. Yuzbashyan, J. Phys. A: Math. Theor. **48**, 245303 (2015).

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