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### Quantum Information Processing Using Electromagnetically Induced Transparency

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**Abstract:** Electromagnetically induced transparency (EIT) is one of the simplest and most fundamental of schemes to control the quantum-mechanical properties of matter and light, such as the superposition of states, entanglement, and quantum interference, by using light, the nature of which is considerably known. EIT can be employed to realize quantum information processing in applications such as optical quantum logic gates, quantum memories, and quantum computers.

**Key Words:** [EIT](#), [Quantum information](#), [Quantum logic gate](#), [Dark state](#), [Adiabatic passage](#)

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