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**Discrimination of one and two-photon effects in electromagnetically induced transparency for ladder-type three-level atoms** EUN HYUN CHA, TAEK JEONG, HEUNG-RYOUL NOH, Chonnam National University, HAN SEB MOON, Pusan National University — We present a theoretical study of complete discrimination of the effects of one-photon, two-photon, and their combination in electromagnetically induced transparency for a ladder-type three-level noncycling (or cycling) atomic system. By considering the interaction routes of the coupling and probe photons, we are able to completely discriminate the pure one-photon and pure two-photon effects. We show that the narrow EIT spectrum results from the pure two-photon effect, whereas the relatively broad spectrum results from the terms of pure one-photon and combination effects.

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