

Abstract Submitted
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Coherent population trapping with a train of pulses via the continuum and its application to excited-state suppression of pumping radiation in laser crystals¹ ELENA KUZNETSOVA, ROMAN KOLESOV, OLGA KOCHAROVSKAYA, Department of Physics, Texas A&M University — Coherent population trapping via the continuum using a train of ultrashort pulses is considered theoretically. It is shown that it can result in complete suppression of population transfer to the continuum. This technique can be applied to suppression of excited-state absorption of pumping radiation in laser crystals. As an example, a Ti³⁺:YAlO₃ is considered, which has a fluorescence band in the 550 – 750 nm range and thus can be a solid-state analog of dye laser if the excited-state absorption of pump radiation is reduced.

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