

## The Review of Laser Engineering

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## Nd-Doped Ceramic YAG Lasers and Their Future

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**Abstract:** A novel technique for ceramic lasers has been developed recently. Self-energy-driven sintering of nano- and micro particles created the fully transparent Nd:YAG ceramics. The ceramic YAG demonstrated high efficiency operation (optical-to-optical conversion of 60 % in end pumping) and high power performance (1.46 kW in side pumping) using laser diode pumping. The mechanism of solid-phase crystals growth and the possible scaling were investigated principally. Typical performance of ceramic YAG laser has been reviewed. The present status and future prospect of the ceramic lasers technologies were discussed.

**Key Words:** [Ceramics laser](#), [Nano-particles](#), [YAG laser](#), [Crystal growth](#), [Solid State Laser](#)

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