

## **Direct and passive subnanosecond pulse-train generation from a self-injection-seeded ultraviolet solid-state laser**

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### **Abstract**

We propose a passive self-injection-seeding scheme for the generation of short-pulse trains from various pulsed lasers. In this scheme a single subnanosecond pulse is generated from a short-cavity seeding laser. The pulse is then returned to the same gain medium and amplified regeneratively until the gain is quenched completely. Cw operation capability or an external short-pulse seeding laser is not required for generation of short-pulse trains. Based on this simple scheme an ultraviolet subnanosecond pulse train is directly and passively generated from a solid-state laser medium (Ce<sup>3+</sup>:LuLiF<sub>4</sub>) pumped by a standard 10-ns laser. © 1995 Optical Society of America.

<http://dx.doi.org/10.1364/OL.20.000599>

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