



## Nd:LuYLF Generates 4.5-ps Pulses

Solid-state lasers based on Nd:LuLF offer a wider spectral emission than those based on Nd:YLF, making them suitable for ultrashort-pulse operation, but LuLF is a much more expensive crystal to produce. Researchers at **Centro de Lasers e Aplicações** in São Paulo, Brazil, therefore, suggested only partially replacing the yttrium with lutetium, to yield a more economically viable lasing medium that they have dubbed Nd:LuYLF.

In the August issue of *Optical Engineering*, the researchers reported the mode-locked operation of an Nd:LuYLF laser that outperforms Nd:YLF in the same configuration. They employed acousto-optical modulation with Kerr-lens-induced pulse shaping with the diode-pumped laser to produce pulses as short as 4.5 ps, or 25 percent shorter than with Nd:YLF. They believe that the setup could produce 2-ps pulses, if the end mirror were directly coated on the face of the crystal.

