

**solid state lasers**

CW or pulsed lasers in which the active medium is a solid matrix (crystal or glass) doped with an ion (e.g.  $\text{Nd}^{3+}$ ,  $\text{Cr}^{3+}$ ,  $\text{Er}^{3+}$ ). The emitted wavelength depends on the active ion, the selected optical transition, and the matrix. Some of these lasers are tunable within a very broad range (e.g. from 700 to 1000 nm for  $\text{Ti}^{3+}$  doped sapphire).

Pulsed lasers may be free-running, Q-switched, or mode-locked. Some CW lasers may be mode-locked.

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