

ET-LF Laser: 1.5 μm or 2 μm ?

	1.5 μm	1.9 μm -2.1 μm
seed laser	two options commercially available ✓	lab. prototypes: DBR fiber laser, ECDL, degenerated OPO, NPROs 😊
amplifier	two options commercially available ✓	lab. prototypes: Tm fiber amplifier, injection locked cryogenic Ho:YAG 😊 OPOs (planned)
reliability	good performance in prototype 😊	no data yet 😊
free-running noise	good performance in prototype 😊	ECDL noise performance is promising, no data for MOPA available yet 😊
stabilization components	mostly available 😊 (missing for all wavelength: $\text{RIN} < 10^{-9} 1/\sqrt{\text{Hz}}$ sensor)	limited experience with EOM / AOM / PDs/QPDs, FI 😊 no high-power photodiodes 😞
audio band stabilization	2G stability requirements demonstrated in PSL prototype 😊	no PSL prototype 😊
$f < 100\text{Hz}$ stabilization	needs work 😊	needs work 😊

summary: no show stopper, no commercial 2 μm laser, 2 μm PSL development 5 years behind