

FiberOptoMeter III

In-vivo optical Ca^{2+} -Recording



- In-vivo Ca^{2+} fluorescence measurement through optical fiber
- Improved design using **new detectors** with superior capabilities
- Optional output signal filter improves signal to noise ratio
- Available with multiple fibers

Typical Ca^{2+} -Traces:

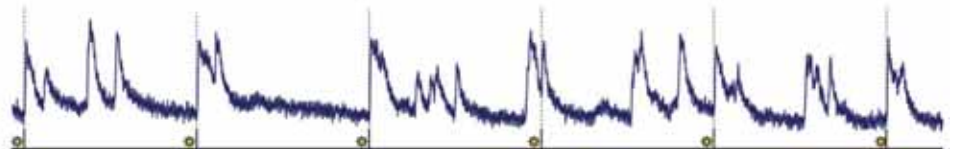
Upper trace:

Slow calcium waves (isoflurane 1.5%)
spontaneous activity (200 μ m fiber)



Lower trace:

Same measurement as above,
visually evoked (*) and
spontaneous slow calcium waves



Ca^{2+} fluorescence indicator OGB-1 was injected into the visual cortex of a mouse.
Data kindly provided by Dr. A. Stroh and M. Schwalm.

REF: **Monakhov et al.** (2019) Bright near-infrared genetically encoded voltage indicator for all-optical electrophysiology, bioRxiv <https://doi.org/10.1101/536359>

Grund et al. (2019) Chemogenetic activation of oxytocin neurons: Temporal dynamics, hormonal release, and behavioral consequences, Psychoneuroendocrinology, Volume 106, 2019, Pages 77-84, <https://doi.org/10.1016/j.psyneuen.2019.03.019>



LPBF-02GD

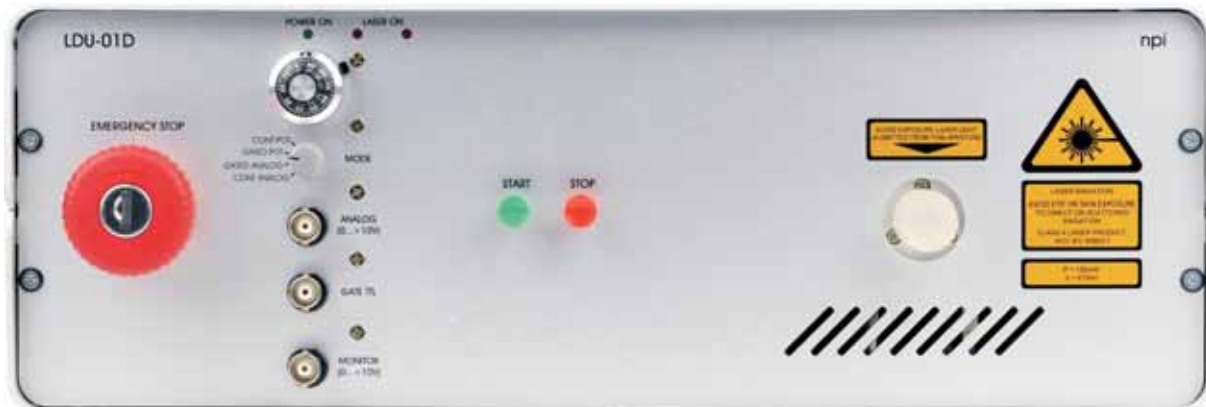
Dual Filter for FiberOptoMeter



- Improves signal-to-noise ratio
- Covers full FOM offset range
- 8-pole Bessel filter
- Gain x1 ... x100

LDU-01D

Laser Driver Unit



- Optogenetic stimulation with 360 nm, 473 nm, 532 nm, 561 nm or 589 nm
- Fiber connector
- High Output Power ($\geq 100\text{mW}$ CW at Fiber End)
- Analog Modulation or TTL gate (max. Frequency: 1 kHz)

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