

# puracy.

Spectral purity and absolute accuracy

## DFC PURACY

Difference Frequency Comb  
with sub-kHz linewidths and  
long-term stability

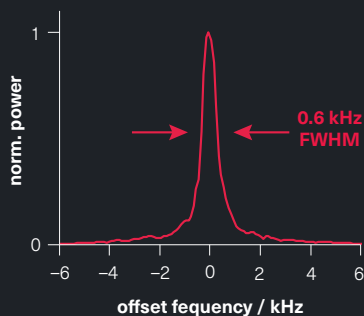


- Cost-efficient upgrade to TOPTICA's frequency comb DFC
- Absolute frequencies traceable back to the SI second
- Save time on daily laser calibration
- Automated simultaneous lock to optical and RF reference

Precision spectroscopy

Infrastructural comb systems

Photonic microwave & THz generation



learn more...



[www.toptica.com/puracy](http://www.toptica.com/puracy)



Specifications

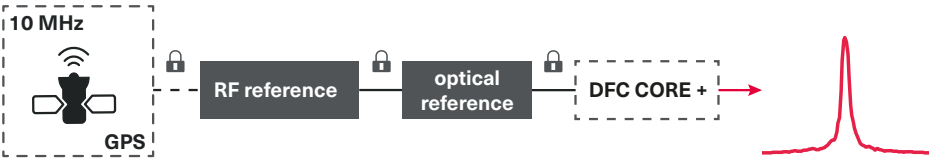
Wavelength [nm]	2000	1550	1162	1000	778	689	532	420
Optical linewidth [kHz]*	0.3	0.6	1.3	2	5	7	9	13

\* Integration from 100 Hz to beta separation line

Averaging time [s]	100	1,000	10,000
Fractional frequency stability*	3e-15	5e-16	2e-16

\* Contribution of DFC PURACY, final value depends on RF reference

Enabled by patented, automated simultaneous lock to optical and RF reference  
Patents: DE102017131244B3, US10,931,078B2



Content of Delivery

- low-noise optical reference, < 1 kHz linewidth
- locking electronics for optical lock and RF lock (2x FALC pro, 1x PFD pro)
- beat detection unit (DFC BCF, DFC MD)
- patented control principle (DE102017131244B3, US10,931,078B2)
- establishing of full lock solution during installation

Full TOPTICA solution with: 1x (M)DFC CORE 200 +, 1x DFC RF, 1x DFC GPS