Our Hardware

A Full Digital Servo for

214,614,220,160,499.34 Hz*

Laser Frequency Stabilization

120ns digital latency

Contro

■ 1933nV/√Hz@1Hz

Ultra Stable Laser

Digital Servo

Circuit Noise

Laser Noise

Low Latency Fast Feedback

Full configurable **dual** feedback channel

Precise Slow Feedback

Error Signal

Contro

Feedback

Control



- Atomic clock
- More application in ...

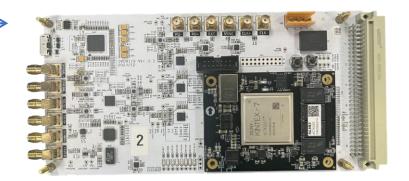
Phase vs Frequency

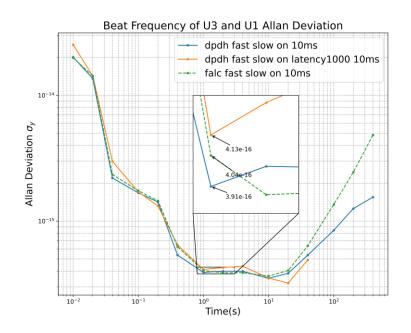
Phase [deg]

Fast Channel Openloop Frequency Response

Frequency [Hz]

Magnitude vs Frequency





*Approximated on 1396.890nm laser with allan deviation at 4e-16

Optical System

Ultra-stable Cavity

Noise

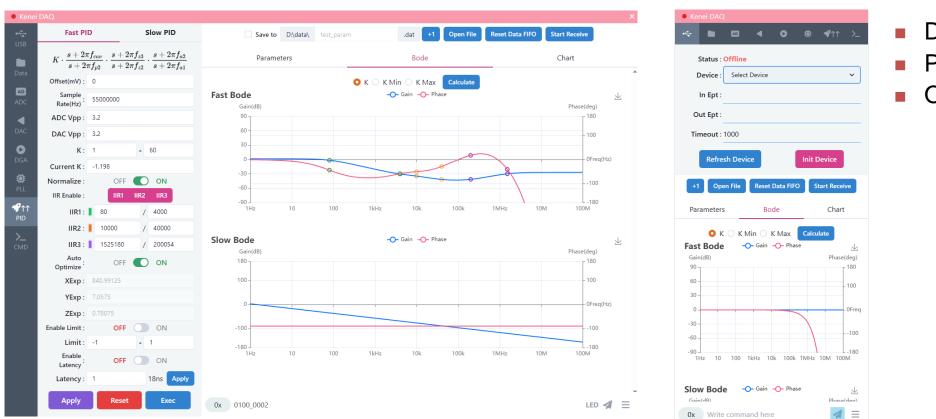
ID #125 A Full Digital Servo for Ultra-Stable Laser Frequency Stabilization Zhengtao Liu, Yu Wang*, Wenchao Ji, Yi Hu, Xiao Jiang, Changqing Feng, Shubin Liu State Key Laboratory of Particle Detection and Electronics, University of Science and Technology of China

tude [dB]



Our Software

- React-based frontend
- Rust-based USB3.0 high speed backend
- Python-based remote webserver backend



Data transfer

- mobile and desktop friendly design

- high sample rate analysis

- multi-platform remote monitor

- PID param control
- Out of lock notification





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