



Abstract of the presentation of Time-Bandwidth Products AG

- SESAM® technology as the key technology of Time-Bandwidth Products AG to manufacture stable and reliable ultrafast DPSS lasers
- Customizable repetition rates of these passively mode-locked lasers of Time-Bandwidth Products enabled by its SESAM technology that allows to synchronize the laser repetition rate to a stable, external RF source of the user with very low timing jitter
- How did the average power of ultrafast DPSS lasers change in the last 10 years?
- The DUETTO™ laser model:
 - ✓ the most flexible, state-of-the art picosecond laser system on the market at the moment
 - ✓ compact and completely sealed, industrial proofed packaging for 24/7 operations
 - ✓ user can set the repetition rate to values as high as 8MHz with >10W average power (ie 6.4909MHz is available as a standard product)
 - ✓ can be synchronized with very low timing jitter to a stable, external RF source
- The FORTIS™ laser model:
 - ✓ Marriage of two state-of-the art technologies (thin-disk - plus SESAM technology) to get the most powerful passively mode-locked DPSS oscillator available on the market (>1µJ pulse energy from an oscillator at quasi-CW repetition rates with <850fs pulse width)
- Future road maps for more powerful ultrafast DPSS lasers?
 - ✓ DUETTO™ model: development project to increase the average output power to > 50W. This corresponds ie to 1MW peak power at 6.49MHz pulse repetition frequency or 2MW peak power at 3.245MHz. Further amplification to increase the peak power more is feasible.
 - ✓ FORTIS™ laser model: higher average power will become available in the future. Currently limited to roughly 50W due to availability of suitable, reliable pump diodes. ETH has shown research results based on that technology with >5µJ pulse energies at 12MHz repetition rates which corresponds to >5MW peak power.

For specific questions and to discuss your laser needs in your specific application, contact the ultrafast DPSS laser experts of Time-Bandwidth Products AG at info@time-bandwidth.com

SESAM® Ultrafast