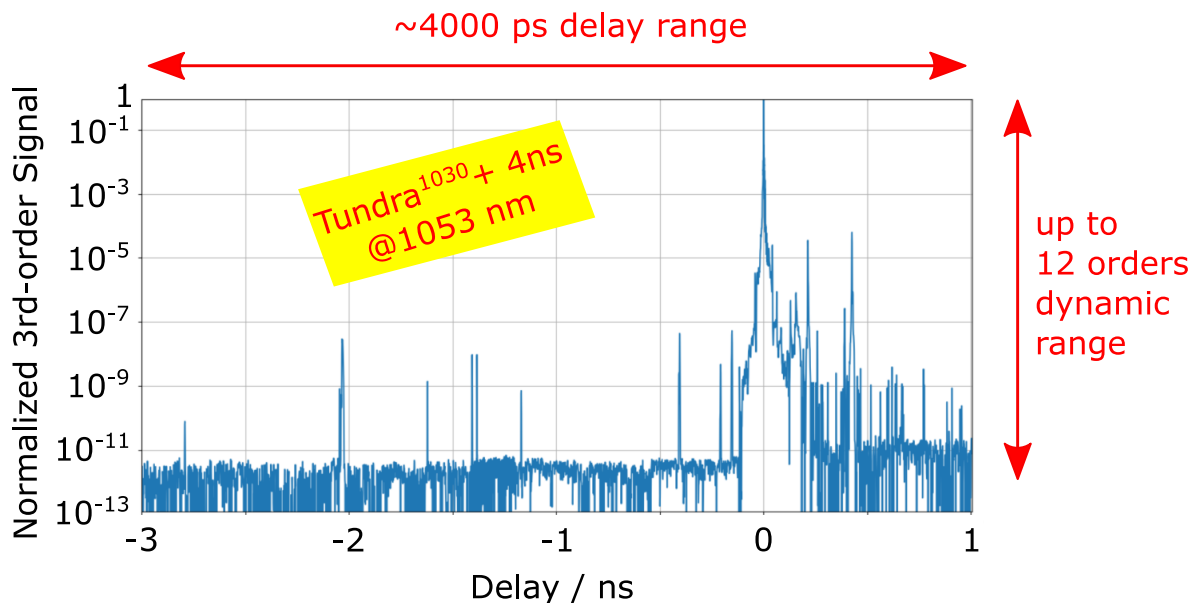


TUNDRA¹⁰³⁰+ Ultra-High Contrast Autocorrelator 1030 nm Version for Femtosecond and Picosecond Pulses



Tundra1030+ 4ns contrast measurement at 1053 nm featuring a 4000 ps delay range, here shifted to negative delays to maximize information about pre-pulses. We characterized the PHELIX 500 TW laser at the Gesellschaft für Schwerionenforschung (GSI) in Darmstadt (Germany) with a pulse duration of 500 fs at 10 Hz repetition rate. The measurement demonstrates the low noise level of our Autocorrelator.

Conventional Ti:Sa (800 nm) laser technology is more and more replaced by Yb:YAG (1030 nm), Nd:Glass (1053 nm) or Nd:YAG (1064 nm) gain media lasers with an output power up to the PW level. Capability for high-field and attosecond research at new frontiers. Our TUNDRA+ measures in its 1030 nm version the pulse contrast of such novel TW-PW lasers with up to 12 orders of magnitude dynamic range. It thus allows to identify amplified stimulated emission (ASE) background or pre/post-pulses down to signal levels 1.5×10^{-12} of the main pulse. The shiftable 4 ns delay range captures most of the pre/post-pulses of interest.

	TUNDRA ¹⁰³⁰ + 4ns
Characterized Laser System	"PHELIX" at GSI in Germany (500 TW)
Wavelength (measurement)	1053 nm
Pulse Duration	500 fs
Signal Dynamic Range	up to 12 orders of magnitude
Pulse Energy (TUNDRA Input Energy)	150 μ J
Delay Range	4000 ps, time zero position customizable