

# Optical Frequency Comb Interferometry for Precision Instrumentation

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Ultrashort lasers, with sub-pico or femto second pulse duration, draw attention as a new light source to advance precision instrumentation beyond conventional lasers. The optical spectrum of ultrashort lasers, referred to as the optical frequency comb, acts as the frequency ruler that allows ultra-stable wavelengths to be produced with stabilization to the atomic clock. This spectral-domain uniqueness of ultrashort lasers has been advancing many measurement techniques towards ultraprecision beyond the capabilities of traditional continuous-wave or pulse light sources. It is also remarkable that the optical frequency comb can readily be extended to a versatile coherent source to generate micro-waves, THz waves, infrared, visible to ultra-violet radiation with frequency traceability to the atomic clock.