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Title:	In-line ultra-thin attosecond delay line with direct absolute-zero delay reference and high stability
Authors:	Dahiya, S. (/jspui/browse?type=author&value=Dahiya%2C+S.) Sidhu, M.S. (/jspui/browse?type=author&value=Sidhu%2C+M.S.) Tyagi, Akansha (/jspui/browse?type=author&value=Tyagi%2C+Akansha) Mandal, A. (/jspui/browse?type=author&value=Mandal%2C+A.) Nandy, Biplob (/jspui/browse?type=author&value=Nandy%2C+Biplob) Singh, K.P. (/jspui/browse?type=author&value=Singh%2C+K.P.)
Keywords:	ultra-thin attosecond optical absolute-zero delay femtosecond
Issue Date:	2020
Publisher:	OSA - The Optical Society
Citation:	Optics Letters, 45(18) PP. 5266-5269.
Abstract:	We introduce an ultra-thin attosecond optical delay line based on controlled wavefront division of a femtosecond infrared pulse after transmission through a pair of micrometer-thin glass plates with negligible dispersion effects. The time delay between the two pulses is controlled by rotating one of the glass plates from absolute zero to several optical cycles, with 2.5 as to tens of attosecond resolution with 2 as stability, as determined by interferometric self-calibration. The performance of the delay line is validated by observing attosecond-resolved oscillations in the yield of high harmonics induced by time delayed infrared pulses, in agreement with a numerical simulation for a simple model atom. This approach can be extended in the future for performing XUV-IR attosecond pump–probe experiments.
Description:	Only IISERM authors are available in the record.
URI:	https://www.osapublishing.org/ol/abstract.cfm?uri=ol-45-18-5266 (https://www.osapublishing.org/ol/abstract.cfm?uri=ol-45-18-5266) http://hdl.handle.net/123456789/3328 (http://hdl.handle.net/123456789/3328)
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