cases	doc_1	doc_2	decision	id
			DUPLICATES	17

doc_1

authors	• Pierre BÃ©jot • Bertrand Kibler
title	Quadrics for structuring space-time wavepackets
publication_date	2022-02-01 00:00:00
source	SupportedSources.INTERNET_ARCHIVE
journal	
volume	
doi	
urls	• https://web.archive.org/web/20220203065622/https://arxiv.org/ftp/arxiv/papers/2202/2202.00407.pdf
id	id7811041366070197055
abstract	Space-time light structuring has emerged as a very powerful tool for controlling the propagation dynamics of pulsed beam. The ability to manipulate and generate space-time distributions of light has been remarkably enhanced in past few years, letting envision applications across the entire spectrum of optics. Space-time optical wavepackets manipulated up to now are usually two-dimensional objects (one space dimension and time) whose mode-resolved spectra lie in a conical section. Using simple symmetry and invariance principles, we show that such wavepackets are particular cases of more general three-dimensional structures whose space-time frequencies lie on quadric surfaces. Our proposed framework allows here classifying space-time wavepackets localized in all dimensions, in any group-velocity dispersion regime, both in bulk and waveguides. Particular emphasis is placed on orbital angular momentum-carrying space-time wavepackets. This unprecedented theoretical approach opens the way for versatile synthesizing of space-time optics.
versions	

doc_2

authors	• Pierre B'ejot • B. Kibler
title	Quadrics for structuring space-time wavepackets
publication_date	2022-02-01 00:00:00
source	SupportedSources.SEMANTIC_SCHOLAR
journal	
volume	
doi	10.1051/epjconf/202226613018
urls	• https://www.semanticscholar.org/paper/2e26d48c500781c245075aa5ba4fe71a54497d10
id	id922695365540624649
abstract	Space-time light structuring has emerged as a very powerful tool for controlling the propagation dynamics of pulsed beam. The ability to manipulate and generate space-time distributions of light has been remarkably enhanced in past few years, letting envision applications across the entire spectrum of optics. Space-time optical wavepackets manipulated up to now are usually two-dimensional objects (one space dimension and time) whose mode-resolved spectra lie in a conical section. Using simple symmetry and invariance principles, we show that such wavepackets are particular cases of more general threedimensional structures whose space-time frequencies lie on quadric surfaces. Our proposed framework allows here classifying space-time wavepackets localized in all dimensions, in any group-velocity dispersion regime, both in bulk and waveguides. Particular emphasis is placed on orbital angular momentum-carrying space-time wavepackets. This unprecedented theoretical approach opens the way for versatile synthesizing of space-time optics.
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