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Title:	Implementation of discrete positive operator valued measures on linear optical systems using cosine-sine decomposition
Authors:	Arvind (/jspui/browse?type=author&value=Arvind) Goyal, Sandeep K. (/jspui/browse?type=author&value=Goyal%2C+Sandeep+K.)
Keywords:	Implementation operator valued linear optical cosine-sine
Issue Date:	2022
Publisher:	American Physical Society
Citation:	Physical Review Research, 4(1), 13007.
Abstract:	Positive operator valued measurements (POVMs) play an important role in efficient quantum communication and computation. While optical systems are one of the strongest candidates for long distance quantum communication and information processing, efficient methods to implement POVMs in these systems are scarce. Here we propose an all-optical scheme to implement an arbitrary POVM using linear optical components on m-dimensional Hilbert space of internal degrees of freedom. Linear optical nature of the proposed scheme makes it efficient and robust. We show how the scheme can be applied for state tomography and for preparing arbitrary mixed states.
Description:	Only IISER Mohali authors are available in the record.
URI:	https://doi.org/10.1103/PhysRevResearch.4.013007 (https://doi.org/10.1103/PhysRevResearch.4.013007) http://hdl.handle.net/123456789/4577 (http://hdl.handle.net/123456789/4577)
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