TAILORING CUSTOM POLARIZATION STATES

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We have developed a technique to straightforwardly generate arbitrary vector beams, with tailored polarization states. We take advantage of the ability of spatial light modulators to simultaneously generate two components of an electromagnetic field by and subsequently recombining them in one complex state. Our experimental results show the versatility and robustness of this technique for the generation of vector beams with arbitrary states of polarization. Our work represents a step towards reliable underwater optical communications.

[1] B. Perez-Garcia, C. López-Mariscal, R. Hernandez-Aranda, and J. Gutiérrez-Vega, "On-demand tailored vector beams," Appl. Opt. 56, 6967-6972 (2017).