



About the cover: *Advanced Photonics* Volume 4, Issue 2

The vectorial properties of light beams, and their interaction with illuminated objects, encode abundant information. The properties of such objects are widely represented via a Mueller matrix. The relationship between the matrix elements and physical structures is not obvious, and the matrix has to be decomposed to reveal the “encoded” information. A newly proposed framework for vectorial metrics not only summarizes certain previous symmetry/asymmetry parameters and enables applications, but also introduces new roles and possibilities for use of the metrics. Further directions range from quantum physics to clinical diagnosis.

The image on the cover for *Advanced Photonics* Volume 4 Issue 2 illustrates a schematic of a Mueller matrix measurement

system and a conceptual Mueller matrix of the sample (4x4 matrix), as well as the related vectorial properties of the light beams.

The image is based on original research presented in the article by Chao He, Jintao Chang, Patrick S. Salter, Yuanxing Shen, Ben Dai, Pengcheng Li, Yihan Jin, Samlan Chandran Thodika, Mengmeng Li, Tariq Aziz, Jingyu Wang, Jacopo Antonello, Yang Dong, Ji Qi, Jianyu Lin, Daniel S. Elson, Min Zhang, Honghui He, Hui Ma, and Martin J. Booth, “[Revealing complex optical phenomena through vectorial metrics](#),” *Adv. Photon.* 4(2), 026001 (2022), doi [10.1117/1.AP.4.2.026001](#).