

Abstract Submitted
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Experimental Analysis of Light's Angular Momentum ZHENGHAO DING¹, GABRIEL C. SPALDING², Illinois Wesleyan University — Light's orbital angular momentum (OAM), and spin angular momentum (SAM), either used separately or together, offer revolutionary opportunities. Record-setting data transmission rates have been achieved by encoding information into light's OAM, limited only by the system étendue, in the case of free-space transmission. Transformation optics provided by Martin Lavery of Glasgow Univ. allow for ultra-fast readout of OAM information. This complements our separate studies of holographic optical traps, where readout of optically induced torques is essential to a host of applications in microscopy, for which we have fabricated smaller-than-normal birefringent vaterite (CaCO₃) microspheres.

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