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Experimental production of vortex beams in coherent Raman generation ALEXANDRA ZHDANOVA, Texas A&M University, MIAOCHAN ZHI, NIST, KAI WANG, JILA, HUA XIA, ALEXEI SOKOLOV, Texas A&M University — Broadband coherent Raman generation provides a promising pathway toward production of ultrashort pulses and time-shaped laser fields. In addition, the transfer of topological charge and orbital angular momentum is a new field with many opportunities for discovery. We explore another dimension for light shaping, and add the possibility of transverse beam shaping by producing Laguerre-Gauss beams from spatial light modulators. Experimental results from the generation of Raman sidebands using optical vortices will be presented. In particular, a series of experiments on the helicity and transfer of higher order topological charge in each sideband will be discussed.

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