SUPPLEMENTARY MATERIAL TO THE MANUSCRIPT

Divergence of Long-Range Bessel-Gaussian Beams with Truncated Coaxial Rings

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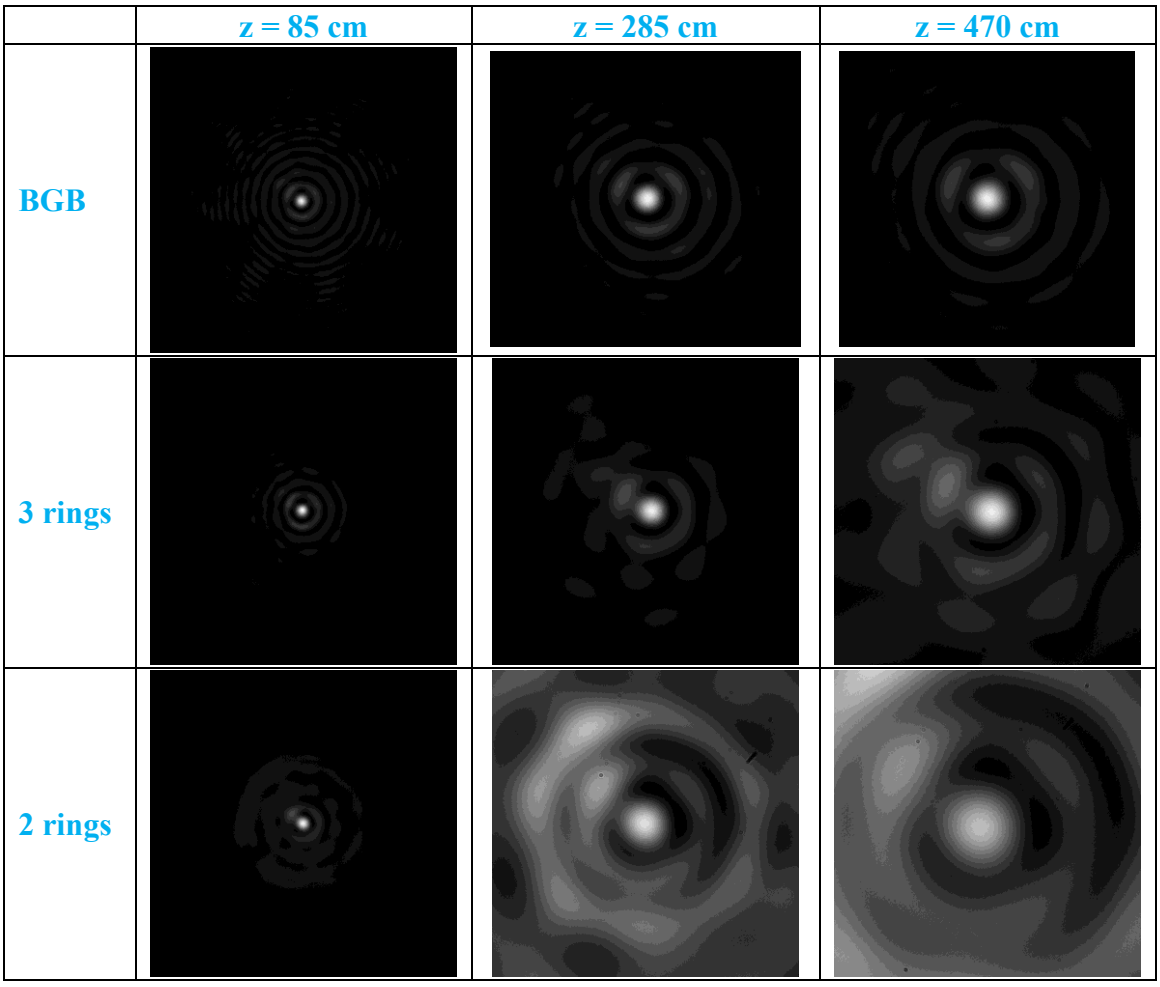
Figure S1. Picosecond pulses at λ=430 nm. Energy density distributions of Bessel-Gaussian beam (BGB) and of truncated BGBs with 3, 2, and 1 rings, recorded at three propagation distances *z* measured from the focal plane of the focusing lens. For better visibility, each frame (1200 pix. x 1200 pix.) is adjusted in brightness.



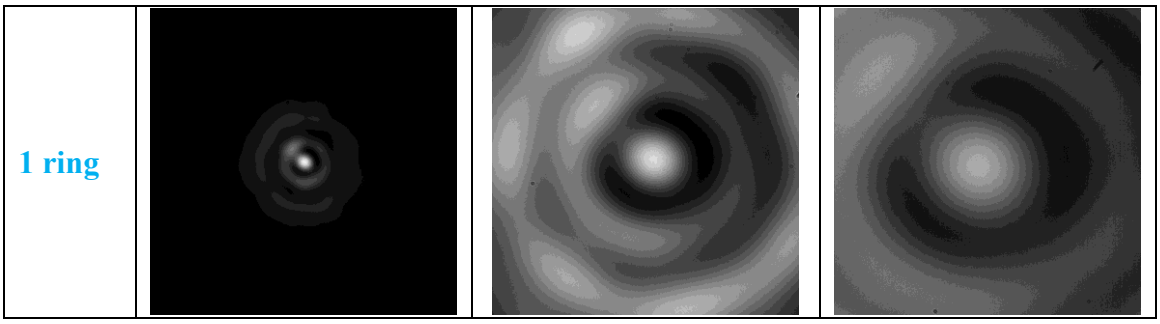


Figure S2. Femtosecond pulses at λ=800 nm. Energy density distributions of Bessel-Gaussian beam (BGB) and of truncated BGBs with 3, 2, and 1 rings, recorded at three propagation distances *z* measured from the focal plane of the focusing lens. For better visibility, each frame (1200 pix. x 1200 pix.) is adjusted in brightness.

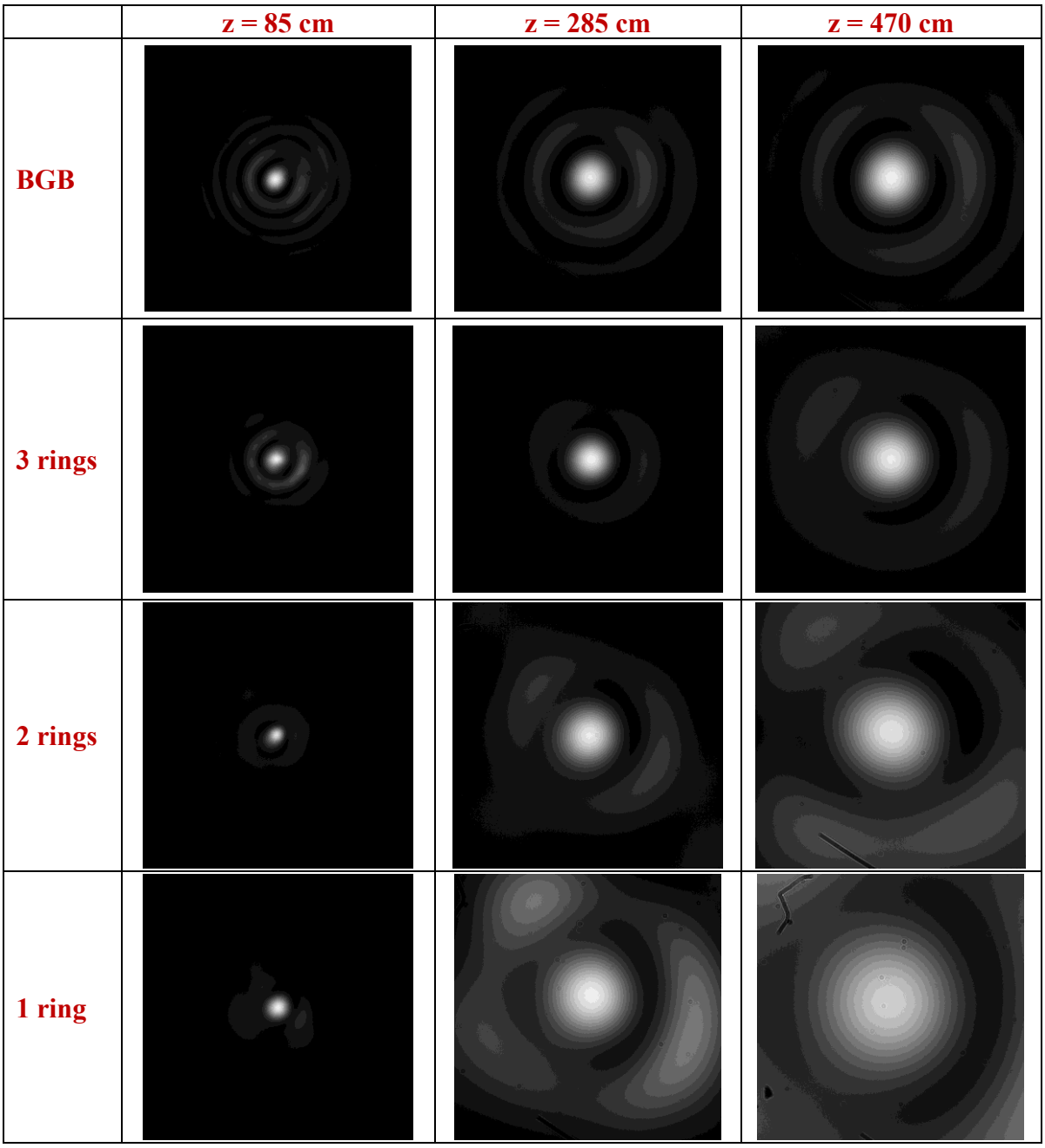


Figure S3. Picosecond pulses at λ=800 nm. Energy density distributions of Bessel-Gaussian beam (BGB) and of truncated BGBs with 3, 2, and 1 rings, recorded at three propagation distances *z* measured from the focal plane of the focusing lens. For better visibility, each frame (1200 pix. x 1200 pix.) is adjusted in brightness.

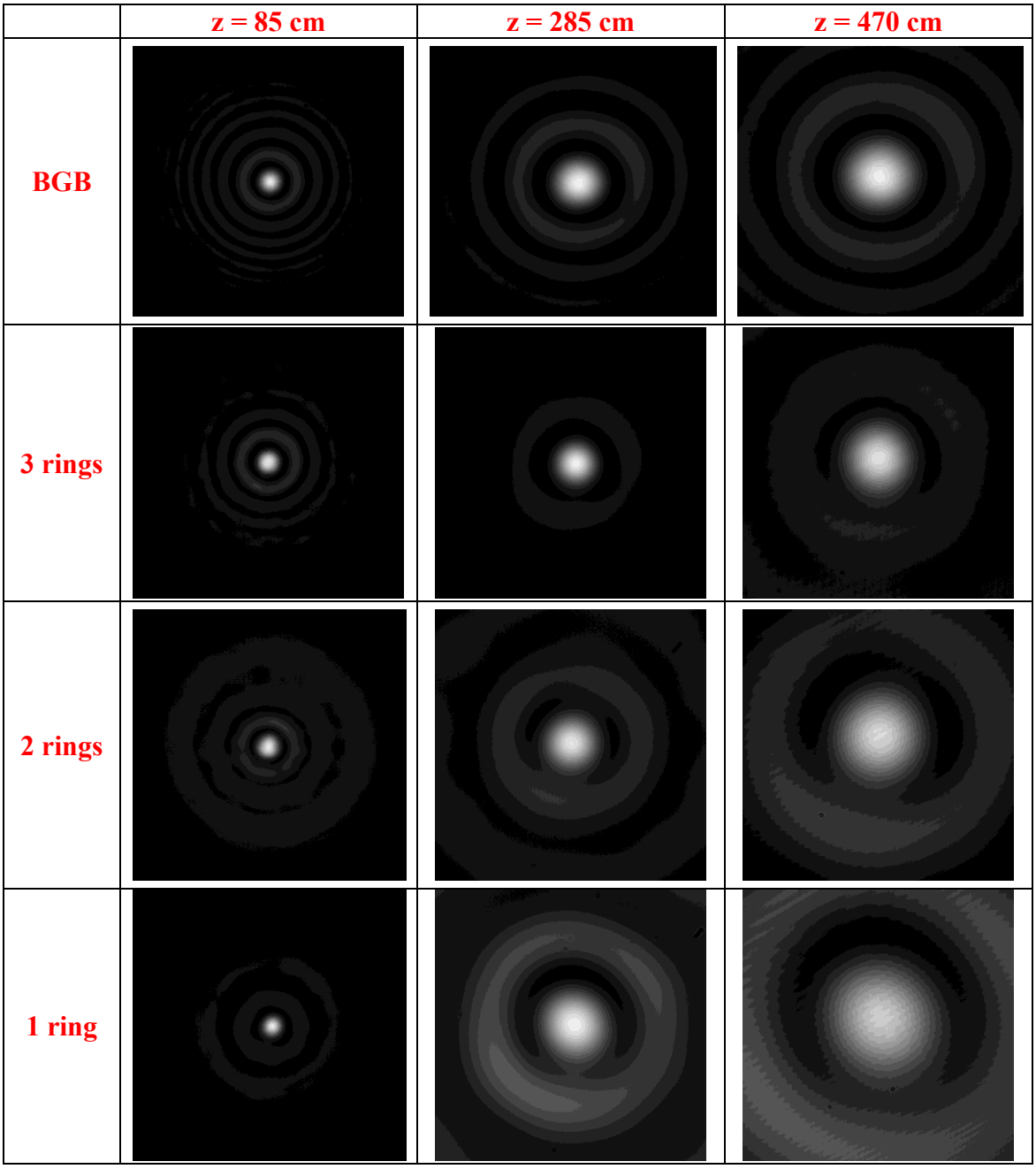


Figure S4. Picosecond pulses at λ=1100 nm. Energy density distributions of Bessel-Gaussian beam (BGB) and of truncated BGB with 1 ring, recorded at three propagation distances z measured from the focal plane of the focusing lens. For better visibility, each frame (1200 pix. x 1200 pix.) is adjusted in brightness.

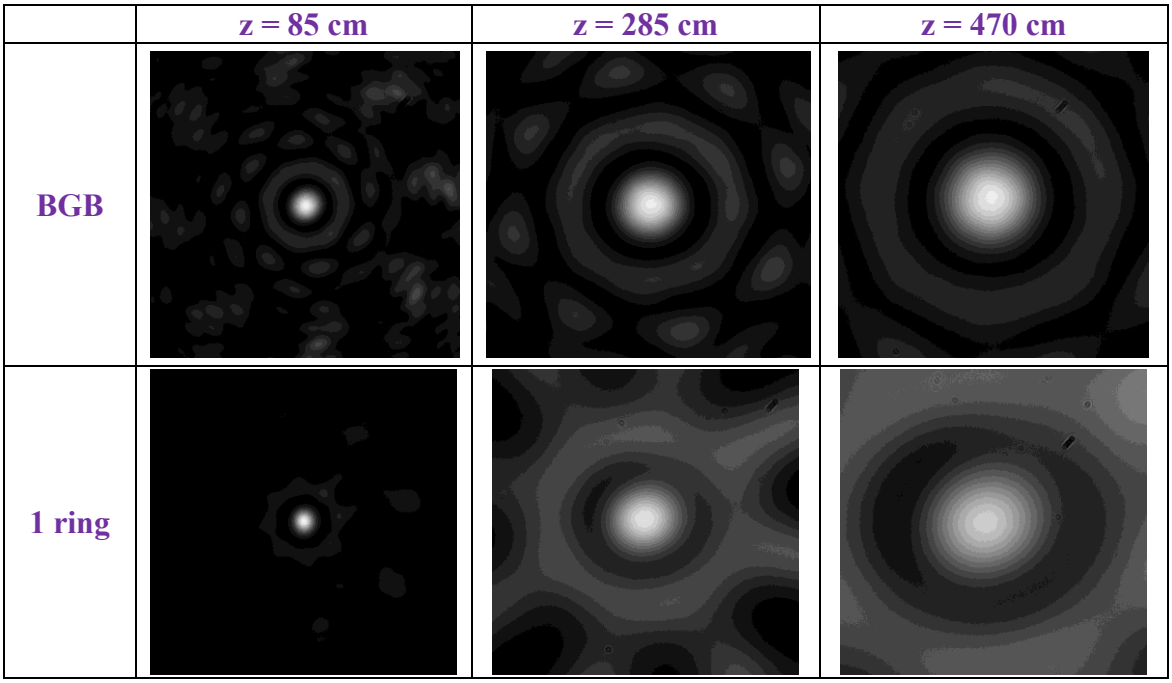


Figure S5. Energy density distributions of OV beams generated from a Gaussian beam passing ones through a vortex phase plate designed and fabricated for 800 nm with a topological charge |TC|=8. The respective wavelength λ of the used picosecond beam and the retrieved ring radius-to-arc width ratio r_0/ω_0 are listed for each frame.

