**ABSTRACT**

Axially splitted multi foci(AMF) are numerically generated by tight focusing of higher order cylindrical vector beam(HCVB) through an annular Walsh filter .Here we report that by properly manipulating the parameters of HCVB such as initial phase(φ0 ),topological charge (m), polarization rotation angle or azimuthal index (a) and suitably phase modulated with a Walsh function filter of fixed orders (n) and annular obstruction (ε),onecan generate axially polarized multiple spots,transversely polarized multiple holes,transversely polarized multi spots,axially and transversely polarized multi holes with extended central annular region.These distributions may be useful for multiple optical trapping and axial superresolution microscopy.