**ABSTRACT**

The tight focusing properties of an azimuthally polarized Bessel Gaussian beam phase modulated by annular Walsh function filter is studied numerically by vector diffraction theory. It is observed that upon suitable optimization of order and annular obstruction ratio of an annular Walsh function filter, one can generate multiple sub wavelength scale optical tubes (optical holes) with super long focal depth. Such a focal system is usable for Nano-lithography, particle trapping and transportation, as well as confocal and STED microscopy, microstructure fabrication etc.