**Abstract**

Focusing properties of the azimuthally polarized Cosh Gaussian beam optical vortex focused through a dielectric interface by in high numerical aperture system is investigated theoretically by vector diffraction theory. Results show that intensity distribution in focal region can be altered considerably by beam ratio$ β$ and beam order. Increase in beam order and beam ratio, the spot size is found to be reduced and improvement in the focal depth is observed. The side lobe intensity is found to increase with increase in beam order for every beam ratio considered. Thus by properly increasing the beam ratio value and beam order generates a highly confined focal spot with maximum side lobe intensity maximum depth of focus. This beam finds application in Optical trapping , high resolution imaging and Optical recording