

## **Waveguide for vortex mode generation in HVAC cloud management communication**

### Abstract

Optical modes allow for the transmission of data by propagating light in a singular coherent form along the channel. By constructing a special waveguide structure, a unique mode may be formed in a plane perpendicular to the transmission axis. This paper elucidates on the design of a waveguide to generate unique vortex modes and analyses the properties of the generated modes.