

Non-spherical representation of optical surfaces - an advanced study

In general a majority of optical system used conventional spherical surfaces as it is easy to make and characterize. Though advantages of using non-conventional surfaces such as aspheric, freeform are being well known since primitive era of geometric optics. The recent progress in high precision engineering technology continuously demanding these surfaces in order to meet stringent optical design requirements. However the right choice of representation of these surfaces is not easy and sometimes may lead to fabrication and metrology criticality which directly push the cost of the optics. In this document different type of non-conventional surface representation with their advantages and disadvantages is being covered.