A NEW DIRECTION FOR FINDING CONFIDENCE REGION OF MULTIPLE PARAMETERS

William W. S. Chen Department of Statistics The George Washington University Washington D.C. E-mail: williamwschen@gmail.com

ABSTRACT

There are three typical values of constant Gaussian curvature, 0, +1 and -1. All other values of the Gaussian curvature can be obtained by multiplying positive real numbers to these three typical values. The corresponding surfaces to these three typical values are cylinder, sphere and hyperboloid of one sheet. In this paper we will study the geometry of these surfaces and how to use them in a statistical confidence region.

MATHEMATICAL SUBJECT CLASSIFICATION: 53A05

Keywords: Confidence Region, Gaussian Curvature, Geodesic Triangle, Geodesic Rectangle, Multiple Parameters.