

Polynomial Transformation of Cassini Coordinates to UTM on the Excel Spreadsheet

Gacoki Thomas Gicira (Kenya)

SUMMARY

POLYNOMIAL TRANSFORMATION OF CASSINI COORDINATES TO UTM COORDINATES ON THE EXCEL SPREADSHEET

T.G.Gacoki

Kenya National Highways Authority

ABSTRACT

A procedure for transforming Cassini grid coordinates (planimetric only) to UTM coordinates on the Excel spreadsheet is outlined. A general second degree polynomial is used to compute twelve parameters which includes two scale parameters, one for the eastings, and the other for the northings and ten other unknowns. Three interconnected worksheets are used to compute the transformation. The first worksheet is used for data entry. The second worksheet computes the twelve transformation parameters necessary for the transformation by use of entries in the first worksheet, while the third worksheet computes the transformed coordinates in UTM by use of the entries in the first worksheet and the computed parameters in the second worksheet. A general third degree polynomial can also be used for the transformation by computing twenty unknowns.

Key words

Transformation, Polynomial, Cassini, UTM, Scale

Polynomial Transformation of Cassini Coordinates to UTM on the Excel Spreadsheet (9237)
Gacoki Thomas Gicira (Kenya)

FIG Congress 2018

Embracing our smart world where the continents connect: enhancing the geospatial maturity of societies
Istanbul, Turkey, May 6–11, 2018