**CONVERSION FROM GEODETIC COORDINATES TO GAUSS-KRUEGER**

**AND VICE VERSA**

**Name: *gk\_mtb\_deg\_v1.2***

Transfer the program to MyLib and set angle mode to “RADIAN“

This program converts geodetic coordinates given as latitude and longitude to Gauss-Krueger (**GK**)-coordinates and vice versa on the basis of **POTSDAM date** and shows the number of the accompanying number of the “**Messtischblatt**” (MTB) in the form “**MTB/qs**”, where “**q”** =

¼ quadrant (Fig.1) and “**s”** stands for the 1/16 subquadrant (Fig. 2). A plot for the location point in the MTB is available on page 1.2.

To convert from latitude and longitude to **GK**-values enter on page 1.1 of the document

***degmtb(lat,lon,net)***, where

**lat** = latitude, **lon** = longitude, **net** = GK-field. If you enter one of the geodetic coordinates as **negative** variable, both are assumed to be in the form dd°.mm’ss”, otherwise, if both are **positive**, they are used as decimal degrees dd.dddd° !

To change from **GK** to latitude and longitude enter on page 1.1

***gkmtb(rw,hw)***, where

**hw** = northing, **rw** = easting coordinate.

**EXAMPLE:**

Convert N 47° 35' 38'’ and E 11° 20' 45'’ to GK coordinates in GK-field 4 (here **lat** is entered negative):

***degmtb(-47.3538,11.2045,4)*** >  **Rechtswert : 4450806.8**

**Hochwert : 5272943.7**

**MTB : “8434/11”**

These values are stored in the variables “**rw**”, “**hw**” and “**mtb**”

So, to convert these values back to geodetic coordinates ( only in this example for didactic

purpose !), enter:

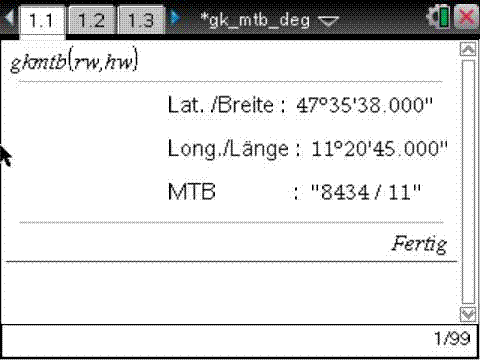
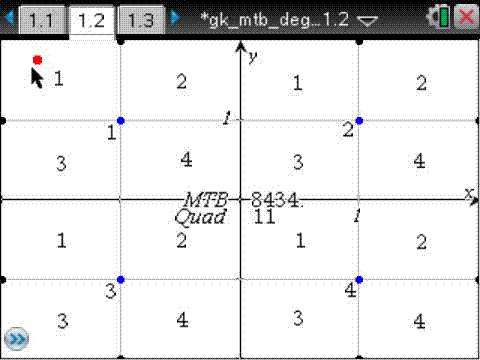
***gkmtb(rw,hw)*** and get the latitude and longitude in DD°.MM’SSsss’’

**Lat./Breite : 47° 35' 38.000'’**

**Long./Länge : 11° 20' 45.000'’**

**MTB : “8434/11“**

The location can be found on MTB 8434 in the top left corner (see below and Fig. 2 ).

*gk\_mtb\_deg*

1 2 1 2

1 2

3 4 3 4

1 2 1 2

3 4

3 4 3 4

1. 2

MTB

3 4

**Fig.1)** **Fig.2)**

Quadrants of „Messtischblatt“ Subquadrants

***Versions:***

V1.1: Plot included

V1.2: Small bug in the assignment to the “MTB” eliminated

As bugs cannot ruled out, check the results you get from the program. The author will not be liable for damages arising out of the use or inability to use this program !

Claus Dachselt

*gk\_mtb\_deg*