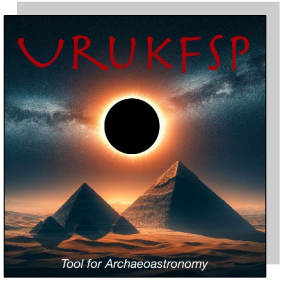

https://urukone.synology.me

Tool for ArchaeoAstronomy ***Author: Alberto Cavalli***

UrukFSP 1.4.1 and higher

Management of Horizon Profiles

Construction of a profile from field surveys.

The horizon profile of an observation site manageable by UrukFSP is essentially made up of a text file containing a descriptive header and a series of azimuth - height pairs expressed in decimal degrees which describe the natural obstacles (mountains, hills, etc.) visible from a observer placed at a specific latitude, longitude and elevation from the reference geoid, the WGS84. This is the reference commonly used by today's GPS systems. The file structure is shown in Figure 1.

```
[header]
place here whatever you want
info about data generator
info about location
this section will not be analyzed
azimuth must be in NESW format
do not put empty lines between header and data
[/header]
0.000 0.000   <- data start here as azimuth + space + altitude
1.000 2.134   <- decimal point is used, no commas here
.....
.....
.....
359.999 1.453
```

Figure 1

The two lines containing only the [header] and [/header] directives are mandatory and enclose the header of the file. If they are missing, the file will be rejected by the Application. Between these two lines, information on the Profile Author, the coordinates and name of the measurement location and anything else can be inserted in a completely free form. No type of syntactic analysis will be done on the content, there may even be empty separating lines.

There must NOT be empty lines between the line containing the closing header, i.e. [/header] and the data, otherwise the file will be refused. As indicated in the figure, there must be pairs of data consisting of the azimuth in NESW format (nautical azimuth, so to speak) and height, ordered by increasing azimuth and separated by a space. There is no obligation to use a fixed number of decimals between the two values, as long as there is a space. Furthermore, it is not necessary for the last pair of data inserted to close the series by repeating the line with Azimuth 0°, the Application will do this automatically. The data must be entered in International format, with the period as decimal separator. The use of commas is not permitted and will cause the Application to reject the file.

The horizon profiles created by surveys carried out with the theodolite will necessarily have .txt as a suffix and must be inserted in the *URUKFSP_USR/Horizons* user directory.

They can then either be associated with a location via the **File → [04] Edit Locations** menu, or loaded without any association via the **Show → [05] Horizon Profile** menu.