

Coordinate systems on the earth ellipsoid and on the maps

- Elements of the coordinate systems on several surfaces
- Geometry of the ellipsoid and its parametrization
- Transformation of different coordinates of the sphere
- Transformation of different coordinates of the ellipsoid
- Direct and inverse problem of the sphere and ellipsoid
- Converting between different geodesic data coordinates
- Direct mapping from the ellipsoid onto a plane and its using in the cartography
- Mapping from the ellipsoid onto an aposphere and its using in the cartography
- Azimuthal projections of the ellipsoid
- Transverse and oblique cylinder projections of the ellipsoid
- Global map coordinate systems (Gauss-Krüger, UTM, MGRS)
- Conical projections of the ellipsoid and their using in the cartography

Literature:

Snyder, J. P.: Map Projections – A Working Manual. USGS Professional Paper 1395. Washington 1987.

Maling, D. H.: Coordinate Systems and Map Projections. 2nd edn. Pergamon, Oxford 1992.

HTML Tutorial [Online] Available at

http://mercator.elte.hu/~gyorffy/jegyzete/Coord_sys/Coord_systems.html [Accessed 25 May 2016]

Suggested literature:

Bugayevskiy L. M. - Snyder, J. P.: Map Projections. A Reference Manual. Taylor and Francis, 1995.