



On determining the length of a geodesic line on the surface of the Earth

C. ANGHEL, M. BOLDEA - USAMVB Timisoara

A geodesic line is the shortest distance between two points on a surface. On a sphere, it is represented by a big circular arc. The Earth can be considered to be a sphere. We consider two points on the surface of the Earth, $M_1(\theta_1, \varphi_1)$ and $M_2(\theta_2, \varphi_2)$, where θ_1 , φ_1 , θ_2 and φ_2 are the longitude and the latitude respectively. After calculating, we find that the length of the geodesic line between them is given by relation (13). r is the radius of the earth. The other parameters are given by relations (4) and (6).