Aufgabe 02.2

$$s = 2 \arcsin \sqrt{\sin^2\frac{a}{2} + \cos(\text{Lat1}) \times \cos(\text{Lat2}) * \sin^2\frac{b}{2}} \times 6378 \quad (\text{Km})$$

mit $\text{Lat1} = 51 + 11/60 + 14.01/60/60 = 51.187222°$

$\text{Lat2} = 51 + 13/60 + 4.5/60/60 = 51.217916°$

$\text{Lon1} = 6 + 47/60 + 50.1/60/60 = 6.797250°$

$\text{Lon2} = 6 + 45/60 + 42.3/60/60 = 6.761750°$

Dann $dLat = \text{Lat2} - \text{Lat1} = 0.000535721835 = a$

$dLon = \text{Lon2} - \text{Lon1} = -0.0006195918 = b$

Dann $s = 2 \cdot \arctan\left(\frac{\sqrt{1.094275 \times 10^{-7}}}{1 - \sqrt{1.094275 \times 10^{-7}}}\right) \times 6378$

$= 0.0006615967 \times 6378$

$= 4.2150330128 \text{ (Km)}$

$= 4215.0 \text{ m}$