Electromagnetic scattering I (53919, 5 cr)
Exercise 5: Mie

Ex. 1
Implement your own Mie-scattering code. Use the material provided in the lecture notes (lecture_19). You will need a computing environment where Bessel-functions and associated Legendre polynomials are available. The length k of the infinitive series can, in practice, be about $k = x$ where x is the size parameter of the sphere.
a) See the effect of absorption. Plot intensity as a function of scattering angle for $x = 50, m = 1.5 + i\,0, 0.01, 0.1$.
b) Plot the scattering efficiency Q_{sca} for a sphere with $m = 1.5 + i\,0$ with size parameter from 1 to 50.