1 Numerov method

1.1 General Numerov method

Lecture 4 – 21.11.2022

Within the Numerov method, differential equations of the following type are treated:

$$\frac{\mathrm{d}^2 y}{\mathrm{d}x^2} = U(x) + V(x)y(x) \tag{1.1}$$

1.2 Anharmonic oscillator and shooting

Exercise 4 – 21.11.2022

In the exercise, the Schrödinger equation

$$-\frac{\hbar^2}{2m}\nabla^2\Psi(x) + V(x)\Psi(x) = E\Psi(x) \tag{1.2}$$

with the potential