

3.4.17

3.4.17 (1)

First zeros at $\pm \varphi_1 = 2 \cos^{-1} \left(\frac{1}{x_0} \cos \left[\frac{\pi}{2(N-1)} \right] \right)$
 or $\pm u_1 = \frac{\lambda}{2\pi d} \cdot 2 \cos^{-1} \left(\frac{1}{x_0} \cos \left[\frac{\pi}{2(N-1)} \right] \right)$

$$\Rightarrow BWNN(u) = \frac{2}{\pi} \cdot \frac{\lambda}{d} \cos^{-1} \left(\frac{1}{x_0} \cos \left[\frac{\pi}{2(N-1)} \right] \right)$$

with $x_0 = \cosh \left(\frac{1}{N-1} \cosh^{-1}(R) \right)$
 $R = 10^{(-SL/20)}$

Problem 3.4.17

