

MEK4350, fall 2015

Comments and corrections to LINEAR WAVE THEORY Part B

Page 3 etc.: They write kx for what we usually write $\mathbf{k} \cdot \mathbf{x}$.

Page 5: All three occurrences of $E(k, \theta)$ should be $E(\omega, \theta)$.
Also “it that important” \rightarrow “it is important”.

Exercise 3.1: Find the missing square root and subscript “ $m0$ ”!

Exercise 3.3 (first version): Same as 3.4 discussed below.

Exercise 3.4: Show that with the written directional function $\sin^2 \theta$ for $0 \leq \theta \leq 2\pi$, the analysis does not work! Can you explain why?

For a more interesting result try one of

- $\cos^2 \frac{\theta}{2}$ or $\sin^2 \frac{\theta}{2}$ for $0 \leq \theta \leq 2\pi$,
- $\begin{cases} \sin^2 \theta & \text{for } 0 \leq \theta \leq \pi \\ 0 & \text{otherwise} \end{cases}$
- $\begin{cases} \cos^2 \theta & \text{for } |\theta| \leq \pi/2 \\ 0 & \text{otherwise} \end{cases}$

Figure 4.1: Draw an arrow along the horizontal axis pointing to the right, and write t next to the arrow.

Exercise 4.1: “Rayleigh distributed waves” \rightarrow “Rayleigh distributed wave heights”