

Chapter 15 - Mechanical Waves

15.1 Properties of mechanical waves, transverse waves, longitudinal waves

15.2-3 Periodic waves, wave relations, wave function, sinusoidal wave, amplitude, phase, particle velocity, particle acceleration

Example: A sinusoidal water wave has a maximum height of 7.4 cm above the equilibrium water level, a distance of 55 cm between wave crests, and is propagating in the $-x$ -direction at 93 cm/s. What is the wave function of the wave?

15.4 Wave speed on a string, linear mass density

15.5 Energy transfer, power, intensity

Example: What is the wave intensity 5.0 km from a 50-kW TV transmitter?

15.6 Interference, boundary reflections, [superposition](#)

15.7 [Standing waves](#), nodes, antinodes, wave functions for standing waves, average power transfer

15.8 Conditions for a string fixed at both ends, fundamental frequency, harmonics, overtones, normal modes

Be sure to look at the examples in the text book!!!