

# Physics 1214 - General Physics II

Quiz #18 - 2013.03.04

## Solutions

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1. What is required for an electromagnetic wave to be linearly polarized?

The  $\vec{E}$  field of the electromagnetic wave must always lie along the same line.

2. Why is the average radiation pressure on a totally reflecting surface twice the momentum flow rate through the surface area, as opposed to just the momentum flow rate through the surface area?

Momentum is imparted when the wave hits the surface perpendicularly, and an equal momentum is imparted when the wave is reflected back in the exact same direction. Thus, you end up with twice the momentum flow rate for the radiation pressure.