NEXT-TIME QUESTION

CONCEPTUAL Physics

Is it correct to say that in every case, without exception, any radio wave travels faster than any sound wave?

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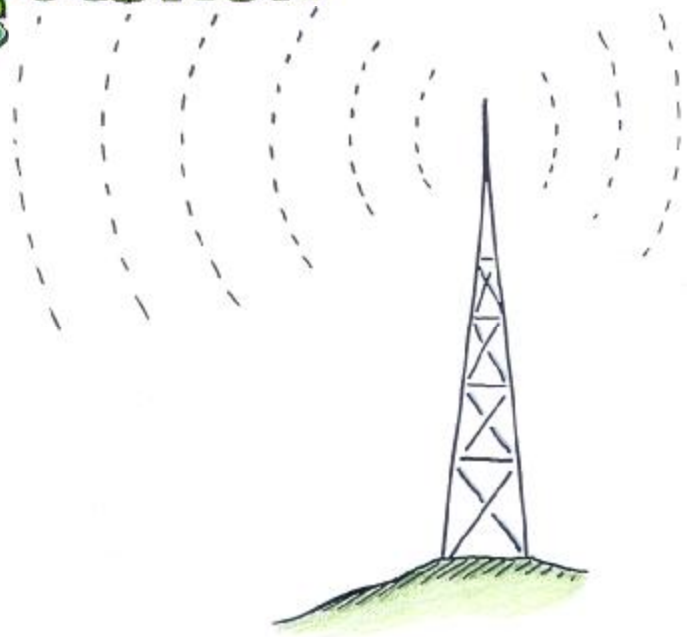

Is it correct to say that in every case, without exception, any radio wave travels faster than any sound wave?

Answer: yes

Yes, because any radio wave travels at the speed of light. A radio wave is an electromagnetic wave. So any radio wave, in a very real sense, is simply a low-frequency light wave. A sound wave, on the other hand, is fundamentally different. A sound wave is a mechanical disturbance propagated through a material medium by material particles that vibrate against one another. In air, the speed of sound is about 340 m/s, about one-millionth the speed of a radio wave. Sound travels faster in other media, but in no case at the speed of light. No sound wave can travel as fast as light.