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**Sensory illusions: Common mistakes in physics regarding sound, light and radio waves** T.M. BRILES[1], A.E. TABOR-MORRIS[2], Georgian Court University — Optical illusions are well known as effects that we see that are not representative of reality. Sensory illusions are similar but can involve other senses than sight, such as hearing or touch. One mistake commonly noted among instructors is that students often mis-identify radio signals as sound waves and not as part of the electromagnetic spectrum. A survey of physics students from multiple high schools highlights the frequency of this common misconception, as well as other nuances on this misunderstanding. Many students appear to conclude that, since they experience radio broadcasts as sound, then sound waves are the actual transmission of radio signals and not, as is actually true, a representation of those waves as produced by the translator box, the radio. Steps to help students identify and correct sensory illusion misconceptions are discussed.

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