Properties of the Helium-Neon Laser and Laser Applications

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The Helium-Neon (HeNe) laser is commonly used in scientific research and is a great model to explain laser physics. Lasers use the property of stimulated emission to amplify light of a specific wavelength. Stimulated emission occurs when a photon interacts with an atom in an excited energy state. The atom falls to a lower energy state, while producing a photon that is identical to the one that initially interacted with the atom. These photons reflect back and forth through the laser resonator, getting amplified with each pass. Some of these photons exit the resonator and form the laser beam. Lasers are an invaluable tool for physicists and have many applications.