

Light Music

Our universe is full of light. Light can be both obvious and mysterious. Some can be seen with our naked eye and some are not. Through its special properties, light wave is used to connect the globe by carrying messages and information, with its superior speed and vast bandwidth. In a way, it is no surprise as God created angels with light who send messages. It is said that if everybody in the world (yes, all 70 billion people!) are on the phone at the same time, it can be carried by a single light source. Light carries information in the form of bits (zeros and ones). This requires modulation of the original message into the form of a signal that is suitable for light transmission. In this demonstration, we present light transmission from a laser pointer, modulated with the sound of music which travels through the air, and is sent to a speaker as a receiver to play the musical sound. At the same time, synchronised light patterns—similar to an equalizer effect—of the sound will be artistically shown by a programmed LED cube, constructed with 512 LEDs soldered together to form the cube. From a technical perspective, this demonstration shows the fundamentals of light, simultaneously travelling through space and carrying messages (musical sound), and then reaching its destination (speaker and LED cube). Whereas from a social perspective, the explanation of light as information carriers will spark an interest, inviting the community to see beyond the light.

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