

Applications to LEDs

LEDs are light emitting diodes. They are simple semiconductors that have the ability to conduct electrical current but unlike common diodes, they emit a light spectrum from ultraviolet, visible light, and infrared. The most common use in our era is used in devices as indicators for notifications in small devices indicating that the device has done a specific job e.g. an LED on a charging phone, indicating that the phone is charging or has been charged. However, there are more relevant tasks that LEDs perform that not everybody is aware of.

LEDs have been innovating the world that we currently live in. There are many applications that LEDs have been applied to. Some traffic lights have now been changed to work with LEDs, since they require less energy to operate and as well as having a longer lifespan than incandescent light bulbs. Also, the automobile industry has been changing their headlights to LEDs for the same reason. Not only are LEDs efficient but also very well known for their lifespan.

LEDs can be useful for cars lighting when encountering fog. Most cars use low refractive white lights that still don't allow the driver to see as far, but if we were to replace those fog lights with blue LED lights, the driver will see more clear and far more than standard fog lights. This is due to the fact that blue light on diode is not as refractive since it only uses between 450nm to 500nm in wavelength comparison to

standard fog lights that require white lighting to be passed through a filter which also decreases the penetration of the light.

Another use can be for the treatment of Jaundice. Jaundice is the yellowing of the skin that is commonly found in newborns. This disease can lead to critical conditions that can be fatal such as brain damage, hearing loss and physical abnormalities. Most treatments require compact fluorescent light bulbs that are tedious to change, use up too much energy, and can be irritating to newborns. This compact fluorescent lighting can be changed to compact LEDs that perform the same task and yet be more efficient. Now imagine if you could just emit the light to a specific part of the body so that is not as irritating. These are few of the million applications that LEDs can be used in the future.