

Electromagnetic Field and Their Human Health Effects

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Introduction and background information

Electromagnetic waves are created due to the vibrations between an electric field and a magnetic field. They are formed when an electric field comes into contact with a magnetic field. They are classified into two, ionizing radiation or nonionizing radiation.

Ionizing radiation is extremely high-frequency electromagnetic waves like x-rays and gamma rays with enough photon energy to for ionization by dissociating the atomic bonds that hold molecules together. The case of nonionizing is those electromagnetic waves with low photon energy that cannot break a bond like ultraviolet radiation, infrared, radiofrequency, and microwaves fields.

There are four groups of Electromagnetic radiation with frequency and intensity that is static Electric, low frequency, intermediate frequency, radio frequency. In static Electric a stationary electric charge is built upon the surface of a matter the electromagnetic waves the active charge, magnetic field comes from the physical movement of the charge, for this case the magnetic field can exert physical forces on electric charges when charges are in motion. The magnetic in Tesla. For shallow frequency, the radiation frequency is below 300 Hertz. The electric magnetic field is an oscillating field crucial to health due to its widespread electrical power, for intermediate frequency between 300 to 100 Hertz.

Application of electromagnetic waves

The electromagnetic waves concept is applied in many fields. They are used in RF range, in therapeutic applications like healing soft tissues, hyperthermia for cancer treatment, or diathermy exposure to patients. they are used in radio waves for radio and television, microwaves in satellites communication and cooking food, in infrared for electrical heaters, cooking food and infrared cameras, in visible light for fiber optic communication, in ultraviolet for energy efficiency, lamps, and sun tanning, in x-rays for medical imaging and treatments, in gamma rays for medical imaging and treatments.

The health effects of electromagnetic waves.

The electromagnetic generated by human knowledge can move very far; specifically, the electromagnetic waves in radio frequency zones are used for communication; this exposes people who frequently use these waves to be affected by the waves. High EMF has non Thermal effects on the human being, and the low-frequency magnetic fields induce a circular current within the human body; the high-frequency electromagnetic waves affect human tissues and cause dizziness. The reason why am fascinated with this topic is due to the wide application Electromagnetic waves have. It might be a simple Kitchen microwave to the sophisticated Air radar system used to located planes in the sky. Honestly without their application life would be too hard due to their wide range of use.

REFERENCES

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