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Effect of Continuous Long Term Exposure of Non-ionising Radiation on Human Health

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The Present study is proposed to explore the effect of continuous long term exposure of non ionizing radiations (NIR) on human health. With the population explosion and technology advancement, the requirement of wireless gazettes is also increasing. Consequently, the base transceiver station (BTS) are increasing in the similar way. Therefore, more and more population of humans is being exposed to radiation from them. Evidently, possible biological effects of their radiation become important aspects of current research. Earlier studies had been performed by considering the electromagnetic wavefront spherical, but practically most of the BTS contain vertical rod antenna which transmits cylindrical wavefront. In this study the theoretical calculations for incident electric field, resulting penetration, temperature variation & Specific Absorption Rate (SAR) have been made with the help of computer simulation technology (CST Studio Suite) by considering the cylindrical wavefront using the electrical conductivity, permittivity, permeability and mass density for the respective tissues at a specific higher frequency ranges of NIR. The intensity of these electromagnetic waves are maximum near the BTS and reduces with distance as it is inversely proportional to the square of distances. On the basis of calculation it can be concluded that the continuous and long term exposure of NIR may be harmful for humans at shorter distances from the BTS.

What is your experiment?

Simulation of Non ionizing Radiations Using Computer Simulation Technology Studio Suite

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