Increase in Specific Absorption Rate (SAR) Of Mobile Phone - A Threat to Human

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Abstract – **Drastic increase of mobile phone usage increases the concern about the effect of electromagnetic radiation on human brain. During the last decade, several researches were conducted in this area and reported the effect of radiation on brain. Unfortunately most of these findings cannot be reproduced. Findings of a number of studies ascertain that, there is no clear evidence to link the relationship between the adverse effects and mobile phone usage. The reason of the changes observed in human body due to radiation and the causes that leads to non reproducibility of these results has to be investigated. In [1] it is reported that, adverse effect of radiation occurs in cellular level if SAR is much higher. So we tried to study the change in SAR using FDTD simulation by increasing the power of excitation. Frequency range is selected as the specified range of frequency permissible for mobile phone communication. The value of SAR obtained for the above specified range of frequency is found within the permissible limit insisted by ICNIRP/IEEE. But on increasing the magnitude of power of excitation, the magnitude of SAR also increased. It can be concluded that, if the transmitting power is not within the permissible limit, there is a possibility to increase the values of SAR, which may cause health hazards.**

Keywords: **Mobile phone radiation, SAR, FDTD.**

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