

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELGAUM-590 014



A Report on Project work
“EFFECT OF MOBILE PHONE ON HUMAN BRAIN USING
EEG SIGNAL”

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ABSTRACT

EEG brain topographic system is able to differentiate several kinds of diagnosis including some mental diseases whose biological origin was previously unknown.

Cell phones emitting pulsed high-frequency electromagnetic fields (EMF) may affect the human brain, but there are inconsistent results concerning their effects on electroencephalogram (EEG). We used a 16-channel telemetric electroencephalograph (ExpertTM), to record EEG changes during exposure of human skull to EMF emitted by a mobile phone. Spatial distribution of EMF was especially concentrated around the ipsilateral eye adjacent to the basal surface of the brain. Traditional EEG was full of noises during operation of a cellular phone. Using a telemetric electroencephalograph (ExpertTM) in awake subjects, all the noise was eliminated, and EEG showed interesting changes: We observed the changes in delta, theta, alpha, and beta. These slow waves lasting for about one second repeated every 15-20 s at the same recording electrodes. After turning off the mobile phone, slow-wave activity progressively disappeared; local changes such as increased median frequency decreased and disappeared after 15-20 min.