

Report 4

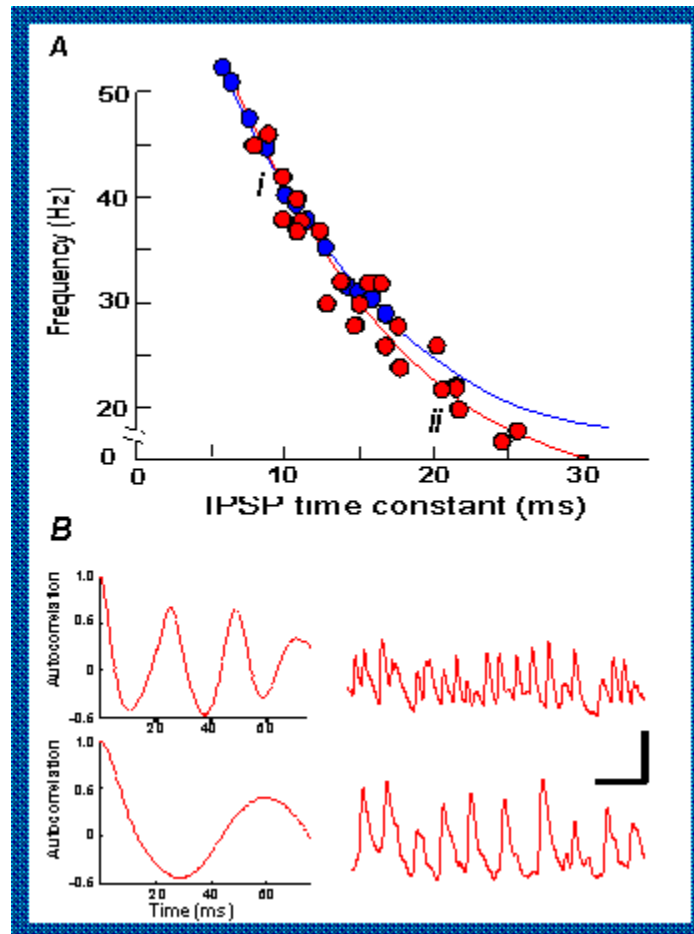
Radiation Frequency Absorption depends on:

The frequency of the radiation, the configuration of the source of the radiation, the size and shape of the object absorbing the radiation, the polarization of the fields, and dielectric properties of the object. The human organism exhibits revealing electrical characteristics. Electromagnetic brain waves (0.1 to 30Hz) occur at frequencies paralleling those of terrestrial spheres and the Schuman resonance. Decision making abilities are subordinate to alpha, beta, gamma

Radio Waves 10^9 to $10^{14.5}$ cm 10^1 to $10^{6.5}$ Hz $10^{-13.5}$ to $10^{-8.5}$ eV

Energy transmitted in the form of waves includes electromagnetic and biological radiation.

HEAT EXCHANGE: When two or more objects at different temperatures are brought together in an isolated environment, they eventually reach the same temperature by the process of heat exchange. That is, warmer materials transfer heat to colder materials until their temperatures are the same. The energy which is being transferred is referred to as internal energy, energy associated with random molecular motion on the microscopic scale.



Traub,R.D., Whittington,M.A., Colling,S.B., Buzsaki,G. and Jefferys,J.G.R. (1996) Analysis of gamma rhythms in the rat hippocampus in vitro and in vivo. Journal of Physiology 493, 471-484.

Simulations (blue circles) predicted, and experiments (red circles) confirmed that:-

1. Slowing the IPSP with barbiturates slows the oscillations.
2. Making the IPSPs smaller with the drug bicuculline speeds up the rhythm and making them bigger with diazepam slows it. The essential idea is that the smaller IPSPs take less time to return the membrane to threshold for the next round of excitation. Part B shows data for the parts of the graph labelled i, ii or iii.