

Combined action of static and alternating magnetic fields on ionic current in aqueous glutamic acid solution

Mikhail N. Zhadin^{1*}, Vadim V. Novikov¹, Frank S. Barnes², Nicholas F. Pergola²

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Abstract

Combined parallel static and alternating magnetic fields cause a rapid change in the ionic current flowing through an aqueous glutamic acid solution when the alternating field frequency is equal to the cyclotron frequency. The current peak is 20-30% of the background direct current. The peak is observed with slow sweep in the alternating magnetic field frequency from 1 Hz-10 Hz. Only one resonance peak in the current is observed in this frequency range. The frequency corresponding to the peak is directly proportional to the static magnetic field. The above effect only arises at very small alternating field amplitude in the range from 0.02 T-0.08 T. Bioelectromagnetics 19:41-45, 1998. © 1998 Wiley-Liss, Inc.