

NONIONIZING ELECTROMAGNETIC RADIATION (EMF) AND THEIR INFLUENCE ON THE HEALTH OF LIVING ORGANISMS

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Abstract. Although official statistics challenge the effect of electromagnetic fields on human health, it is often questioned because of the incontrovertible evidence of increased incidence of various cancers and skull tumor emergence and development. Exposure to radio frequency (RF), extremely low frequency (ELF) fields and microwave fields (MW) by using more often mobile (GSM) and wireless phones and exposure to electromagnetic fields created by communications antennas prove a causal link between exposure to electromagnetic fields and various forms of cancers developed. Study of the interaction of electromagnetic non-ionizing fields (EMF) and living matter and its possible biological and health effects is currently one of the topics most discussed and controversial, not only because of its purely scientific interest, but also with reference to its cultural, social and economic implications.

Keywords: Radiofrequency electromagnetic fields (RF), electromagnetic fields of extremely low frequency (ELF), nonionizing radiation, Biological effects of nonionizing radiation.

Since the '80s until now many studies signal and confirms that non-ionizing electromagnetic fields have biological effects on living organisms, other than thermal effects. Many artificial sources, imposed by the technological development of electronic devices are operating in a wide frequency range from static fields of extremely low frequency (ELF) to the radio (RF) and microwave (MW).

Communication systems, means of socializing, high voltage power lines, transmission and distribution of electrical energy, wireless mobile telephone systems, radio and television mainframe systems, communication systems of emergency services and military sphere all of them uses non-ionizing radiation (EM).

Yet numerous studies show that although do not interact like ionizing radiation, their interaction with living material and the produced functional changes in the context of the existence of electromagnetic fields, are proved by epidemiological studies and clinical case studies. Their effects occur before reaching thermal limits imposed and already recognized by the International