MICRO WAVE NEWS

A Report on Non-Ionizing Radiation

Are All Effects Thermal?

January 25, 2008

"Are there any biological effects that are not caused by an increase in tissue temperature (nonthermal effects)?" That was one of the "overarching issues" considered by the NAS-NRC committee at the workshop it hosted last August (see p.11 of the its final report, as well as our August 10, 2007 and January 17, 2008 posts). At the time, France's Bernard Veyret, the member of the committee who led the discussion, expressed skepticism that such effects had been reliably documented.

Now comes the February 2008 issue of the *IEEE Transactions on Biomedical Engineering* with a short paper describing such a nonthermal effect on human white blood cells. The applied 900 MHz RF signal is quite weak —only 0.4 V/m. The research team, from the University of Colorado, Boulder, states, "The calculated temperature change resulting from the RF exposure was less than one microdegree" (one-millionth of a degree).

The corresponding author of the new paper is Frank Barnes, a member of the National Academy of Engineering and the chair of the NAS-NRC committee that wrote the report released last week.

thermal effects, National Academy of Sciences, Frank Barnes, Bernard Veyret,

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