

tion of this model, the agreement between theoretical predictions derived from the Marcatili's analysis and experimental data appear satisfactory for most engineering purposes.

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## Letters

### Comment on "Numerical Calculation of Electromagnetic Energy Deposition for a Realistic Model of Man"

KUN-MU CHEN

In the above paper<sup>1</sup>, Hagmann *et al.* compared their numerical results on the energy deposition in a model of man with ours [1], [2], and indicated that our results are low compared with their numerical and experimental results. Our low SAR values were obtained because they were based on a simplified model of man which has a reasonable shape but an excessive weight of about 200 kg. We have since published a considerable amount of results based on a more realistic model of man [3], [4] which has a more realistic shape and a weight of about 100 kg. Our numerical results based on the realistic model of man are quite close to the numerical and experimental results of Hagmann *et al.* as shown in Table I.

It is noted that our published results on SAR's [3], [4] are in  $\text{mW}/\text{m}^3$  and they are induced by an electric field of  $1 \text{ V}/\text{m}$

(max. value), therefore, a factor of 0.00754 should be multiplied to our data to obtain SAR's in  $\text{W}/\text{kg}$  induced by a plane wave with a power density of  $1 \text{ mW}/\text{cm}^2$ .

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TABLE I  
DISTRIBUTION OF ENERGY DEPOSITION FOR MAN NEAR RESONANCE IN FREE SPACE

Body Part	Experiment, 68 MHz Gandhi et al. [5]	Numerical, 80 MHz Chen et al. [2], [3]	Numerical Hagmann et al. [1]	
			65 MHz	77 MHz
Eye	0.043	0.02	0.0415	0.0427
Neck	6.16	0.2	0.286	0.318
Heart	3.13	0.32	0.251	0.327
Pelvic Region	0.415	0.17	0.171	0.233
Thigh	0.154	0.62	0.398	0.509
Calf	0.519	0.34	0.543	0.661

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<sup>1</sup>M. J. Hagman, O. P. Gandhi, and D. H. Durney, *IEEE Trans. Microwave Theory Tech.*, vol. MTT-27, pp. 804-809, Sept. 1979.

### Comments on "Upper Bound Calculations on Capacitance of Microstrip Line using Variational Method and Spectral Domain Approach"

K. SACHSE

The author read with interest the above paper<sup>1</sup> in which an analytical approach based on the Fourier transformation and variational techniques have been employed; the surface potential  $V(x)$  of the dielectric sheet in order to find the upper bound of the microstrip line capacitance  $C^U$  has been used. Thus this approach complements that of Yamashita *et al.* [1], who calculated the lower bound  $C^L$  dealing with the charge density  $Q(x)$

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<sup>1</sup>K. Araki and Y. Naito, *IEEE Trans. Microwave Theory Tech.*, vol MTT-26, pp. 506-509, July 1978.