

but is one thirtieth of  $\text{CaSO}_4:(\text{Dy})$ . The minimum gamma dose measurable with this phosphor is 150 mR.

#### MATHEMATICAL PHANTOM OF THE ADULT HUMAN GROUP STUDY

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This group study was originally formed by Dr. W. S. Snyder some years ago being carry out work in order to obtain heterogeneous organs of the mathematical phantom of the adult human already described elsewhere <sup>(1,2)</sup>. The heterogeneity of this organs is a very important case in the health physics and nuclear medicine fields.

Some special cases in the mathematical phantom of the adult woman are also being studied.

The group is presently finishing the study in order to obtain a heterogeneous skeleton taking into account the mineral bone and the yellow and red bone marrows.

The final study to get a heterogeneous Kidney, by considering three regions (cortical, medullar and collecting) is also in progress. This new Kidney was tested with 12 different gamma ray energies and also with monoenergetic electrons of 9 different energies.

As a special case, the group has studied doses delivered to the fetus <sup>(3)</sup> of a woman during her pregnant stage when the radioactive material (a gamma ray emitter) is located in the gastro-intestinal tract.

#### References:

- 1) W. S. Snyder, M. R. Ford, G. G. Warner and S. J. Watson, "A tabulation of Dose Equivalent per Microcurie-day for source and Target organs of an Adult for various Radionuclides, ORNL-5000, 1974.
- 2) W. S. Snyder, H. L. Fisher, Jr, M. R. Ford, G. G. Warner, "Estimates of Absorbed Fractions for Monoenergetic Photon Sources Uniformly Distributed in Various Organs of a Heterogeneous Phantom", Journal of Nuclear Medicine, MIRD Supplement N° 3, Pamphlet 5, 1969.
- 3) Clontier, R. Y. et al, "Dose to the fetus from radionuclides in the bladder", Health Physics 25 : 147-61, Aug. 1973.