

The system is now used in clinical routine in which many cases are being accumulated and

processed.

A program for iso-count contour display of radioisotope image by a digital computer of medium size

K. FUKUHISA and T. INUMA

National Institute of Radiological Sciences, Chiba

We have reported several methods of radioisotope image display by peripherals of a digital computer in the previous work. In this report, programs for iso-count contour display are described with a CRT display unit and a curve plotter.

In order to obtain co-ordinates of points of an equal count level, interpolation of image cells are inevitable due to relatively small number of image cells. As a means for interpolation, Lagrangean interpolation or linear interpolation are often utilized, but difference between the two methods was within $\pm 2\%$ for the most of radioisotope images used, and no significant difference was observed in view of image visualization by human. Since the linear interpolation resulted in faster speed of calculation and in use of smaller number of core memories than the Lagrangean, we have used the former method for the display of clinical image.

The program for CRT display unit consists of two subprograms linked in on-line, in which values of iso-count levels can be varied arbitrarily up to 8 levels. During the search and calculation of display point for iso-count levels, the letter "N" is shown on the CRT, but it is erased when all data points are searched and displayed.

The program for curve plotter is made to produce linearly interpolated points of smaller intervals than those of CRT display and to plot an iso-count contour by tracing a point of equal count at minimum distance from the present point. In this program, co-ordinates of the traced points are packed into one record and thus an image up to 128×128 cells can be processed.

We are also investigating on the applicability of the iso-count contour to the automatic recognition of lesions in the radioisotope image.

Practical Significance of "Counting Loss" in the Use of the 4096 Channel Analyzer with Scinticamera

T. SAKAI, Y. YAMAMOTO, T. TANAKA and H. ASAKURA

*The Second Department of Radiology, the Kanagawa Prefectural
Center for Adult Diseases*

On the daily use of the scinticamera and data-processor for the clinical radioisotope dynamic examinations, particularly when relatively a large dose is applied, we have recognized that an effect of counting loss caused by the apparatus can not be ignored and should be corrected to obtain accurate data.

The followings are our conclusions produced

by the serial analytical studies on this subject.

1) The value of counting loss varied depending on the apparatus used; the TOSHIBA register matrix type, the Picker-the PhoGAMMA H. P., and the TOSHIBA delay line type.

2) Counting loss also varied depending on what kind of isotope was used: the higher the energy of the isotope was, the more counting loss