Symposium

Current Status and Future of RI Data Processing.

Computer Systems in the Nuclear Medicine Laboratories (in the Case of the NIRS)

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Recently, digital computers are more and more widly employed in processing radioisotope image data in the nuclear medicine laboratories. It has been reported in committee of Nippon Societas Radiologica that twenty-seven digital computer systems were used for radioisotope imaging in Japan. (E. Takenaka et al.: Nipp. Act. Radiol. **35** 4 (1975) 285–293) In this simposium, we reported that the advantages of the use of the digital computers in radioisotope imaging are: (1) to collect all informations from an image data with little loss of information, (2) to process the acquired data, in digital quantity, into an intelligent pattern for visualization by means of smoothing and refocussing, (3) to file the digital image data so that they can be used for later statistical studies and compared with similar data obtained in other institutions, (4) to study functions of an organ by dynamic images of a Gamma camera, and (5) to study the possibility of recognizing the characteristics of a radioisotope image by which an automatic classification of the images can be made correpsnding to various kind of diseases. And detailes of the hardware of the computer system and software for on-line data acquisition, image processing and image display were described. Moreover, the capabilities and availabilities of the computer system and problems deriving from various applications as above were also dicussed.

Off-line Processing of Large Computing System

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Since radioisotopic data can be defined as numerous spacially occuring temporal events, a bulk of informations should necessarily be processed even in a simple algorithm. For this reason, it is quite pertinent for the on-line system to be prevailing nowadays. However, excepting for the conventional scintigraphic data processing such as smoothing operation, resolution-recovery opera-