

The basic characteristics, such as visual fields, blur etc. of this two screen camera has been examined and reported at the 33th annual meeting of society of radiological technology. (1977).

As a result, this Polaroid camera would be available to routine work. Namely, in static studies, to obtain two images of different density

is to make up of a weak point of narrow latitude of Polaroid film. In dynamic studies, the number of Polaroid film increased than conventional one screen camera and the roll film is more suitable for this purpose.

In conclusion, two screen Polaroid camera is useful for routine works.

γ -Camera Used the Super Resolution Method

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The optical image system can not pass the spatial frequency over the maximum frequency of its system. In γ -camera there is not wide frequency band, its image quality is bad at the resolving power.

We used the method of super resolution for the improvement of γ -camera resolution. We provided 1050 parallel holes collimator (2.0 mm hole diameter, 0.2 mm septer thickness) for the op-

tical system. 2.5 lines/cm frequency grid object was overlaped with 1.6 lines/cm frequency grid. The object image overlaped passed through the optical system and its image was overlaped with 1.6 lines/cm grid for the second time. Two 1.6 lines/cm grids moved continuously for one frequency. We could observed 2.5 lines/cm object image.

Reduction of Compton Scattered Rays by Using Pb-filters in Positron Imaging

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This paper presents an evaluation on the use of Pb-filters in NIRS positron camera to improve the operation performance, although the effect of Pb-filters on Anger type positron camera has already been reported by G. Muehlelehner. This approach is to increase the detection efficiency by lowering the discrimination level, keeping the image quality by removing scattered rays from a patient body with Pb-filters.

Evaluation were made on the scattered rays from energy spectra measured with one of the detectors under various conditions. When a ^{68}Ge - ^{68}Ga point source was positioned at the center of the detectors separated by 50 cm, and when the source was

sandwiched with 10 cm thick Lucite plates, the photo fraction in the spectrum was measured to be 0.1, and the component of scattered ray was measured to be 2.8 times that of the unscattered rays. The use of a 1mm thick Pb-filter reduced the scattered rays by a factor of 3.3, with 15% loss of unscattered rays.

From these results, it is estimated that the scattered-unscattered and the scattered-scattered coincidence rates are, respectively, reduced by factors of 4 and 10, with 28% loss of the true coincidence rate. Besides, the accidental coincidence rate is also expected to be reduced by a factor of about 5, since the singles rate decreases by a factor of 2.3.