Title	The Improved Counting Rate Meter
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cular to the axis of a counter, we counted β-particles ejected from the same sample of P^{32} which were collimated by the very narrow and long hole (1 mm in diameter).

As the results, the part of the center was found to be rather inefficient. It was considered to be due to the existence of a glass bead and a center wire. While the efficiency of the part near the cathode wall decreased so sharply that it could not be only attributed to ordioary recombination of ions. Moreover, it was found to be not due to diffusion of a beam of the β-rays by some experiments.

4. The Improved Counting Rate Meter

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This circuit consists of an uniform pulse generator, an integrator and a vacuum tube voltmeter. The uniform pulse generator consists of two univibrators and a differential circuits, so that the average rate of arrival of the periodic or random pulses can be indicated by the outputmeter and the reading of the meter never depend on the shape of pulses. Also the first univibrator can act the role of the discriminator. The range of the counts can be easily changed by changing only the bias of the integrator tube. In the integrator circuit no condenser is used, except in the tank circuit, and the vacuum tube voltmeter is of the type of the cathode follower, so that the reading of the outputmeter is linear to the average rate of the input pulses. The voltmeter, forming an electrical bridge, is stable to the fluctuation of the supply voltage.

With this meter, we could read the counting rate, from 10 to 300,000 periodic pulses per minute, or from 71 to 23,100 random pulses per minute, within the error of 5%.

5. The Absorption of γ-Rays from Co^{60} in Several Elements

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The γ-ray absorption coefficients of twelve elements for Co^{60} γ-rays (1.17 Mev and 1.33 Mev) were measured.

The value of absorption coefficient generally depends to some extent upon the experimental geometry used. In the present experiment, therefore, in order to exclude the effects of scattered or stray radiation as far as possible, we adopted the experimental arrangement essentially the same as that used by Uemura in