

5.4. **The complete interpretation of data from gamma-skip-gamma directional correlation measurements — ^{124}Te**

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5.5. **Time coincidences in the reactions $\text{Er}(n, \gamma)$ and $\text{Lu}(n, \gamma)$**

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5.6. **Linear polarization of 662 and 279 keV gamma rays elastically scattered in uranium**

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The measurements were performed in an arrangement described in Ref.¹⁾ A planar Ge(Li) detector of $\phi 18 \times 3$ mm was used as a polarization analyzer. The scatterer was a disc of uranium metal of $\phi 32 \times 10$ mm. The gamma ray sources, ^{137}Cs of 5 Ci or ^{203}Hg of about 1 Ci, were placed inside a heavy lead shield. The shield and the scatterer were mounted inside a steel cylinder. The cylinder was pivoted in a fork to change the scattering angle, and the fork was mounted onto a shaft to rotate the scattering plane (see Fig).

Small deviations of the detector from the axis of rotation cause considerable changes in the counting rate due to the strong dependence of the cross sections on the scattering angle. However, the change of the sum of counting rates at two

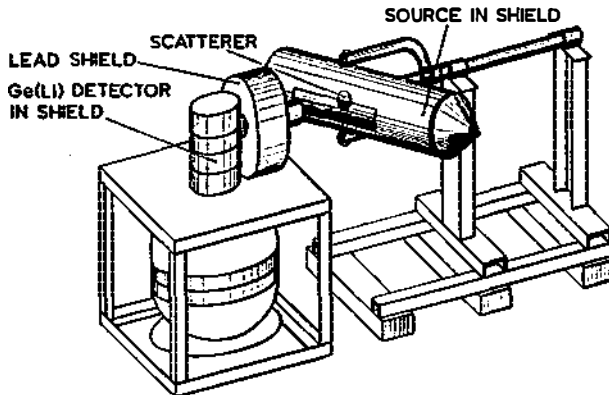


Fig.

opposite positions of the source cancels to first order, and in this way systematic errors can be practically eliminated. Therefore, the counting rates for both the »parallel« (N_1) and the »perpendicular« (N_2) orientation of the polarization plane with respect to the detector were determined for two opposite positions of the source (four positions altogether).