considered here is $25\pi$ $cm^2$ and that of the cylindrical is $150\pi$ $cm^2$.i.e. 6 times more The registration efficiency of the latter with 3 *cm* thermalizer is 2.4 higher and for 5 *cm* one is 3.3 higher. The corresponding narrowing of margins of error is $\sqrt{6 \cdot 2.4} \approx 3.8$ and $\sqrt{6 \cdot 3.3} \approx 4.4$ times being compared with those of the spherical counter that quite compensate decrease of difference in the case of tube counter.

## 4. Conclusion

A response of neutron detectors of spherical and cylindrical geometries to the ground level atmospheric neutron spectrum was performed using Geant4 package. Comparison of response matrices of the two geometries showed their identity up to a coefficient. This in turn should provides identical unfolded spectra.

At the same time the cylindrical geometry demonstrated weaker dependence on thermalizer thickness being compared to the spherical one. That may result to lower accuracy of an unfolding procedure. It is shown that this shortage can be compensated at list partially by increased registration efficiency and sensitive surface of cylindrical counters. Thus, result of the simulation allows tube counters to be considered as a potential device for radiation environut monitoring.

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## Appendix

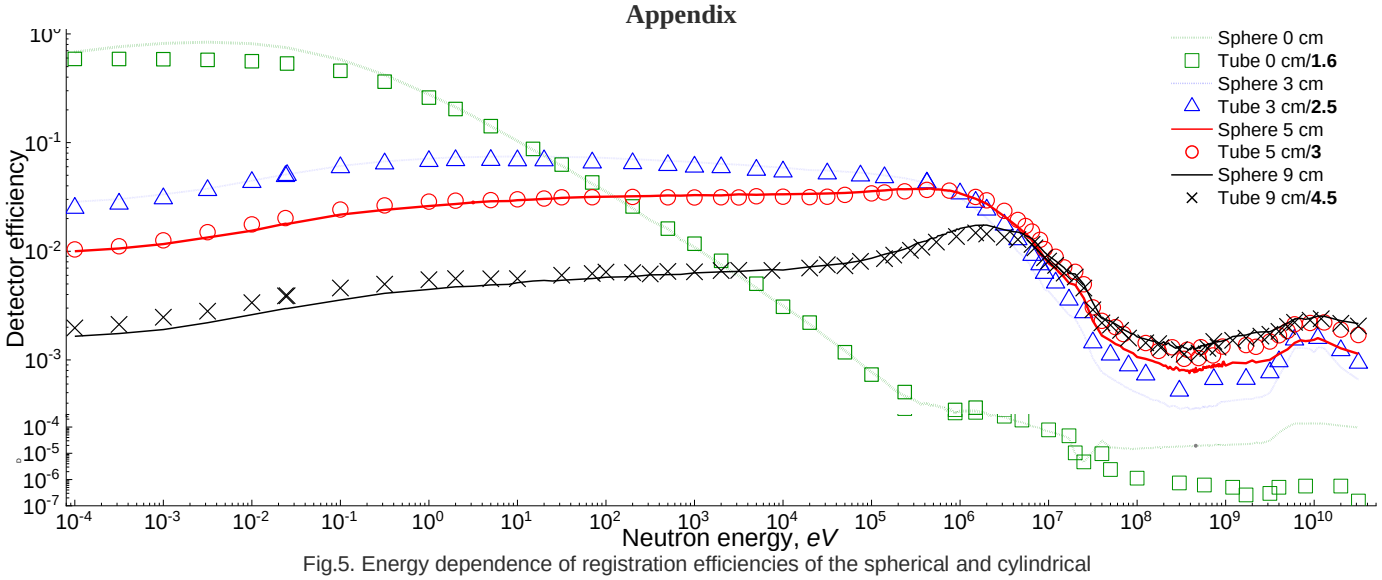


Fig.5. Energy dependence of registration efficiencies of the spherical and cylindrical counters with different thermalize thicknesses for an isotropic neutron flux