

The invention relates to scintillation technology, namely the scintillation materials and detectors on their basis used for detection of thermal neutrons. Scintillator containing a mixture of fine-grained powders of ZnS (Ag) and ^6LiF , enriched to 90% of the isotope ^6Li , dispersed in a polymer matrix. The size of the particles in the ZnS (Ag) is 7.9 microns, and the particle size of 0.6-0.8 microns ^6Li . The technical result of the invention is to improve the detection of thermal neutrons in the background gamma radiation.