Experimental and calculated photopeak efficiencies have been obtained for a 32 cm$^3$ true coaxial Ge(Li) detector at four distances: 2 cm, 5 cm, 10 cm and 20 cm. A comparison of these results is presented.

During the past few years several papers discussing the experimental efficiency calibration of Ge(Li) detectors have appeared$^{1-7}$). Recently a paper by Aubin et al.$^8$) describing a Monte Carlo computer program to calculate the efficiency of planar and true coaxial Ge(Li) detectors has been published. The present investigation was undertaken to provide a comprehensive comparison between the calculated results obtained with this program and experimental results obtained with the pair-point method$^{1-4}$). Ten sources were used to obtain the data for the experimental efficiency curves of fig. 1: $^{22}$Na, $^{60}$Co, $^{46}$Sc, $^{106m}$Ag, $^{88}$Y, $^{24}$Na, $^{180m}$Hf, $^{137}$Cs, $^{133}$Ce and $^{160}$Tb. The program of Aubin et al.$^8$) was run on the PDP-10 computer of the University of Michigan physics department. Several hours of running time were required to obtain the data for each source-to-detector distance. Photon cross sections used in the calculations were taken from the work of Storm and Israel$^9$); detector dimensions were

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taken from the specifications of the manufacturer (Ortec). A comparison between experimental and calculated values is shown in fig. 2. Because of the fact that the computer program can not reproduce the hump [produced by attenuation in the surroundings of the Ge(Li) crystal] at the low-energy end of each of the curves shown in fig. 1, the data of fig. 2 start at an energy well beyond this hump (0.2 MeV). As fig. 2 shows, the agreement between experimental values and calculated values is excellent.

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References
2) W. R. Kane and M. A. Mariscotti, Nucl. Instr. and Meth. 56 (1967) 189.