Erratum: Photoproduction of neutral kaons on a liquid deuterium target in the threshold region


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In the above-named study of the neutral kaon photoproduction, the cross sections given in Figs. 10 and 11 were wrong due to trivial mistakes, mainly in estimating the number of beam photons. The normalization factors for the cross sections are found to be larger by a factor of approximately 3.9 compared to the previous one, though it depends on the \( K^0 \) momentum. The corrected spectra are shown in Fig. 11 (numberings are the same as the original ones). As a result, the \( r_{K^0 K \gamma} \) value obtained by fitting the \( K^0 \) spectra in the lower photon energy region (0.9 \( \leq E_\gamma < 1.0 \) GeV) should be replaced by the new value of \( r_{K^0 K \gamma} = -1.405 \) for the Saclay-Lyon A (SLA) model. The phenomenological parameters are also changed: \( a_0 = 0.3532, a_1 = -0.2152, a_2 = -0.0359, \) and \( e_0 = -0.0866 \) with \( \chi^2/n.d.f. = 0.80 \).

By these corrections, the experimental cross sections are larger than those calculated by the Kaon-MAID model in the momentum region of \( P_{K^0} < 0.4 \) GeV/c both in the lower and higher photon beam energies. However, the \( K^0 \) spectral shapes in the laboratory system are essentially the same as those of the previous ones and the discussion does not change. In Fig. 12, the \( K^0 \) angular distributions for the SLA and PH models calculated with the new parameters are shown together with those for the Kaon-MAID model. It suggests a much enhanced backward \( K^0 \) distribution in the c.m. system because the SLA and PH1 models are preferred to reproduce the new results with larger cross sections.

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**FIG. 11.** (Color online) Inclusive momentum spectra for \( K^0 \) photoproduction in the effective regions in comparison with model calculations. The error bars show statistical errors. The systematic error is represented by solid histograms on the baseline.

**FIG. 12.** Angular distributions of the elementary cross section of \( K^0 \Lambda \) production in the c.m. system for the four models.

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