Errata

Erratum: Is there spontaneous symmetry breaking in gauge theories with the Higgs-Kibble mechanism? [Phys. Rev. D 8, 2721 (1973)]

Joseph Sucher and C. H. Woo

In the second line below Eq. (2) read $B(\partial^\mu U_\mu + (1/\xi)\chi)$ instead of $B(\partial^\mu U_\mu + (1/\epsilon)\chi)$.
Equations (3) and (4) should read

$$\partial_\mu F^{\mu\nu} + m^2 U^\nu - m\partial^\nu \chi + \partial^\nu B = -\frac{\partial L_I}{\partial U_\nu} + \partial_\mu \frac{\partial L_I}{\partial(\partial_\mu U_\nu)}, \tag{3}$$

$$\Box\chi - m\partial_\mu U^\mu = \frac{\partial L_I}{\partial \chi} - \partial_\mu \frac{\partial L_I}{\partial(\partial_\mu \chi)}. \tag{4}$$

Equation (5) and the sentence that follows should read

$$\partial_\mu \frac{\partial L_I}{\partial U_\mu} - \partial_\mu \partial_\nu \frac{\partial L_I}{\partial(\partial_\mu U_\nu)} + m\partial_\mu \frac{\partial L_I}{\partial(\partial_\mu \chi)} - m\frac{\partial L_I}{\partial \chi} = 0. \tag{5}$$

One can then write down the most general $L_1(U_\mu, \psi, \chi)$ containing terms cubic or higher in the fields, with mass dimension less than or equal to 4, with arbitrary coefficients.

Erratum: Comparison of approximate methods for multiple scattering in high-energy collisions [Phys. Rev. D 5, 2088 (1972)]

W. Tobocman and M. Pauli

The calculations reported in the original article were repeated by Y. Nogami and K. K. Bajaj of McMaster University, who found discrepancies between their results and ours. Professor Nogami was kind enough to bring this to our attention. Upon rechecking our computer program we found some errors, and when these were corrected we found agreement with the results of Nogami and Bajaj.

The results of the corrected calculations are shown in Figs. 1(a) and 1(b), which replace the two parts of Fig. 4 in the original article. In these figures are displayed the transmission probabilities of a particle incident on a bound state of two other particles in one dimension. Inspection of the corrected results shows that one of the conclusions of the original article must be changed: The adiabatic (or fixed-scatterer) approximation in fact works extremely well. Our principal conclusion remains unchanged: Although the Glauber approximation gives a poor representation of the forward scattering of a pair of fixed scatterers, when combined with the adiabatic approximation it gives a very good representation of the forward scattering by a pair of particles in a bound state.

We would like to use this opportunity to correct several misprints. The specified equations should read as follows.

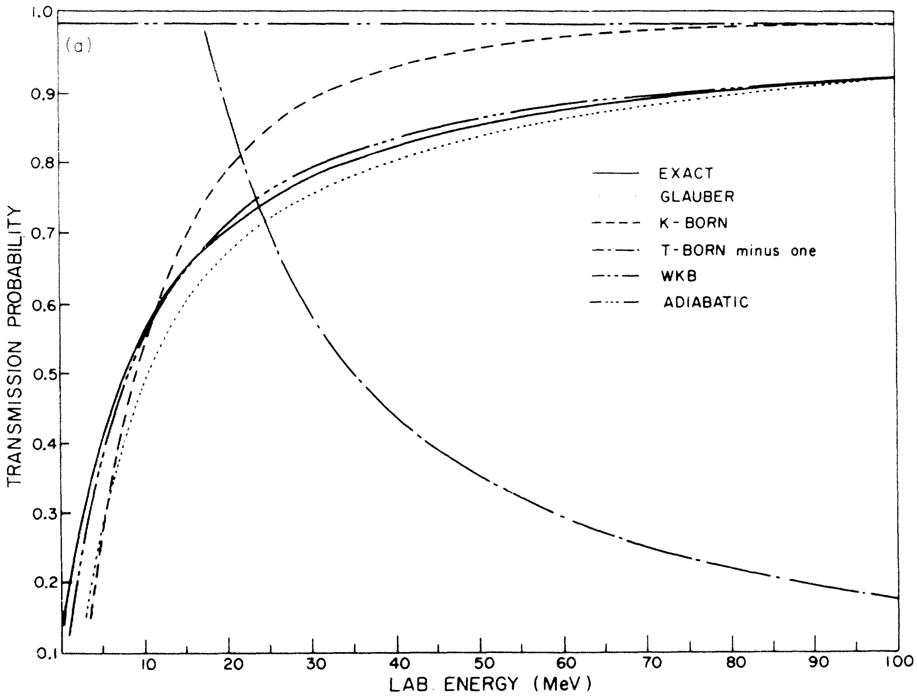
Eq. (33c): $a = \sqrt{2}\, MA/\hbar^2$

Eq. (34a): $\psi_0(x, y) = e^{ikx}(a/2)^{1/2}e^{-a|y|/2}$

Eq. (35b): $\Lambda = -i\gamma/(1 + i\gamma)$

Eq. (35c): $\gamma = -\nu/2k = -a/k3^{1/2}$

Equation (35c) should be repeated as the third from the last line in Table I, and the last line of Table I should read $\alpha = |\frac{3}{2}\gamma|$.



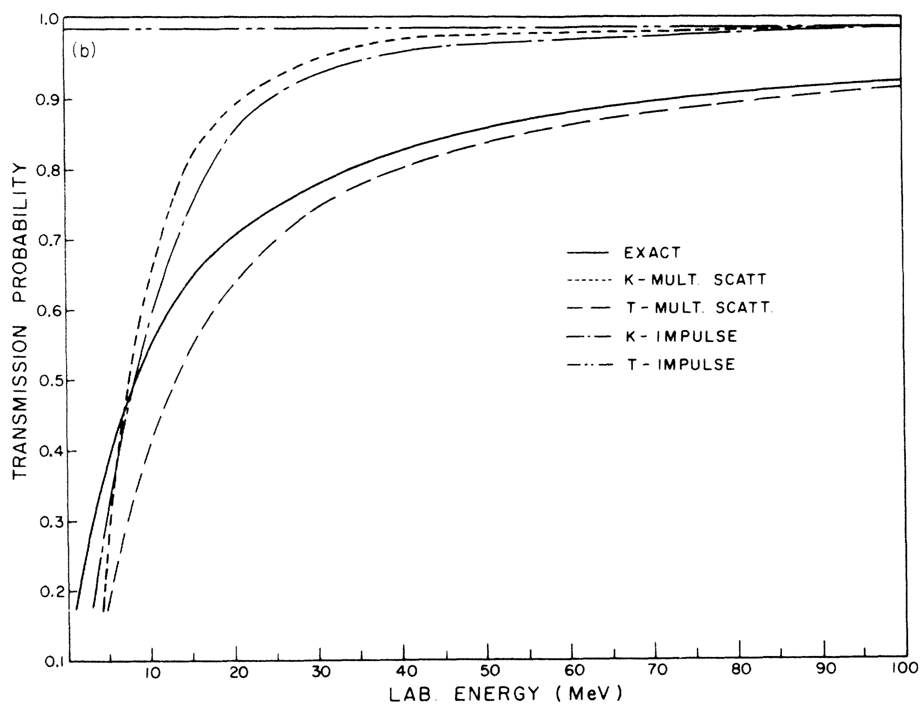


FIG. 1. Transmission probabilities for a particle in one dimension scattering from two others in a bound state. The three particles are distinguishable, have mass of 1 amu each, and interact with each other via identical zero-range potentials of strength such as to bind a pair of the particles by −2.2 MeV. The approximate transmission probabilities employ the adiabatic approximation. The approximate calculations used the Glauber theory, the WKB approximation, the Born approximation for the K matrix and the T matrix, the impulse approximation for the K matrix and the T matrix, and the second-order multiple-scattering approximation for the K matrix and the T matrix, respectively. The curve labeled "adiabatic" is the result of inserting the exact fixed-scatterer amplitude into the adiabatic approximation.