itz plot), and have not been investigated.

The authors would like to thank Professor C. J. Goebel and Professor B. Sakita for useful comments on parts of this work. One of the authors (L.D.) would also like to thank Professor W. McGlinn for raising the questions which led to this investigation.

\*Work supported in part by the University of Wisconsin Research Committee, with funds granted by the Wisconsin Alumni Research Foundation, and in part by the U.S. Atomic Energy Commission under Contract No. AT(11-1)-881, COO-231.

<sup>1</sup>T. T. Wu and C. N. Yang, Phys. Rev. Letters <u>13</u>, 380 (1964); J. S. Bell and J. Steinberger, in Proceedings of the Oxford International Conference on Elementary Particles, September, 1965 (Rutherford High Energy Laboratory, Chilton, Berkshire, England, 1966), p. 195.

<sup>2</sup>K. W. McVoy, preceding Letter [Phys. Rev. Letters 23, 56 (1969)].

<sup>3</sup>The analogs of Eqs. (5) and (6) for *CPT* and *T*-conserving interactions are discussed by K. W. McVoy (to be published). The more general relations in Eqs. (5) and (6) can be derived quite simply from the analytically continued unitarity equation  $S^{\dagger}(E^*)S(E) = S(E)S^{\dagger}(E^*) = 1$  by requiring that the residues of the poles in these expressions at  $E = \xi_S$ and  $E = \xi_L$  vanish. The inner products in Eqs. (5) and (6) are understood to include sums over spins and integrals over phase space where these are necessary.

<sup>4</sup>Had we assumed T invariance rather than CPT invariance, the g's and h's would be equal,  $g_S = h_S$ ,  $g_L = h_L$ , and S would be symmetric.

<sup>5</sup>This assumption is justified if *CP* is conserved by the strong and electromagnetic interactions. *CP*-invariance violations in the nonstrange weak interactions will change our results only by terms of weak interaction strength  $(10^{-6})$  relative to the g's. The presence of CP-nonconserving terms in the strong or electromagnetic background scattering of order  $10^{-3}$  relative to the *CP*-conserving terms would necessitate a complete reanalysis of the  $K_{S}$ and  $K_L$  decay phenomenology with B given by Eq. (9). Equations (10)-(13) are still valid, and provide a simple starting point for this analysis.

starting point for this analysis. <sup>6</sup>The proof is based on an identity  $g_L^{\dagger}Bh_S^{*} = -g_S^{\dagger}Bh_L^{*}$  which follows from the properties of the g's, h's, and B. Multiply Eq. (5) by  $g_L^{\dagger}$  and Eq. (6) by  $g_S^{\dagger}$ , and equate the expressions for  $g_L^{\dagger}Bh_S^{*}$  and  $-g_S^{\dagger}Bh_L^{*}$ . Upon collecting terms, one finds that the ratio  $(g_S^{\dagger}g_S)/(g_L^{\dagger}g_L)$  is necessarily equal to unity, and that  $(g_S^{\dagger}g_L)/(\xi_S^{*}-\xi_L)$  is pure imaginary. The value of  $g_S^{\dagger}g_S$  is established by using Eqs. (5) and (6) to determine the right-hand sides of the identities  $g_S^{\dagger}g_S = \tilde{h}_S B^{\dagger}Bh_S^{*}$ ,  $g_L^{\dagger}g_L = \tilde{h}_L B^{\dagger}Bh_L^{*}$ , and eliminating the quantity  $\operatorname{Re}(g_S^{\dagger}g_L)$  between the two equations. <sup>7</sup>A. M. Lane and R. G. Thomas, Rev. Mod. Phys. <u>30</u>, 257 (1958). One can easily establish a sum rule for the to-tal widths. However, this envelopes the production decay and background amplitudes

tal widths. However, this envolves the production, decay and background amplitudes,

 $\Gamma_{\mathcal{S}}g_{\mathcal{S}}^{\dagger}Bh_{\mathcal{S}}^{*}+\Gamma_{L}g_{L}^{\dagger}Bh_{L}^{*}=\Gamma_{\mathcal{S}}+\Gamma_{L}.$ 

<sup>8</sup>J. Cronin, in <u>Proceedings of the Fourteenth International Conference on High Energy Physics</u>, Vienna, Austria, September, 1968 (CERN Scientific Information Service, Geneva, Switzerland, 1968), p. 281. Also N. Barash-Schmidt et al., Rev. Mod. Phys. 41, 109 (1969).

<sup>9</sup>With the assumptions noted above, the contribution of the CP-nonconserving  $2\pi$  decay in the I=2 state is suppressed relative to that of the I=0  $2\pi$  decay by a factor of  $\sim \frac{1}{16}$ , while the contributions of the CP-nonconserving  $3\pi$  and semileptonic decay modes of  $K_S$  and  $K_L$  are suppressed by roughly a factor  $\Gamma_L/\Gamma_S \sim 1/25$ .

## ERRATA

SCATTERING MODEL OF MOLECULAR ELEC-TRONIC STRUCTURE. Franklin C. Smith, Jr., and Keith H. Johnson [Phys. Rev. Letters 22, 1168 (1969)

Reference 3 should read: K. H. Johnson, Intern. J. Quantum Chem. 1S, 361 (1967).

EXPERIMENTAL VALUE OF  $\Delta E_{H} - s_{H}$  IN HY -DROGEN. T. W. Shyn, W. L. Williams, R. T. Robiscoe, and T. Rebane [Phys. Rev. Letters 23, 1273 (1969).

The quoted error on  $\Delta E_{H}-\$_{H}$  is one standard deviation from the mean, not one average deviation as reported.