

the analysis is that each atom still has a well-defined number of nearest neighbors. The fact that the coordination is tetrahedral (i. e., $Z=4$) is used at only one point in estimating the norm of H_1 . If, however, the coordination were not tetrahedral, it would still be possible to demonstrate the existence of a band gap. To see this, we note that Eq. (4) is a special case of the more general relation

$$\det \begin{vmatrix} \lambda & -V_1 & -V_1 & \cdots \\ -V_1 & \lambda & -V_1 & \cdots \\ -V_1 & -V_1 & \lambda & \cdots \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \end{vmatrix} = (\lambda + V_1)^{Z-1} [\lambda - (Z-1)V_1].$$

Combining this result with the simple manipula-

tions outlined above, a band gap can be shown to exist so long as $V_1/V_2 < 2/Z$.

In conclusion, we point out that arguments of this type were, in effect, anticipated by HWT. As these authors point out, in the limit $V_1 \rightarrow 0$, their Hamiltonian describes a gas of independent bonds, and the spectrum is simply $\mp V_2$. Turning on the interbond coupling associated with H_1 can only lead to a *finite* (i. e., proportional to V_1) broadening of the original bonding and antibonding levels.⁵ That the broadening is finite follows from the fact that the norm of H_1 is itself of order V_1 . Physically, it is precisely this notion of weakly coupled two-level systems that underlies the resolvent formalism, and in this sense it is not surprising that the bonding-antibonding classification of eigenvalues survives for small enough values of the ratio V_1/V_2 .

*Supported in part under Grant No. GP-17560 of the National Science Foundation.

†Supported in part under Grant No. GP-16504 of the National Science Foundation and the Advanced Research Projects Agency.

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⁵In this sense, the present derivation is closer in spirit to the approach of Heine than it is to that of Weaire and Thorpe.

ERRATA

Comment on the Elastic Constants of LiCl, Nunzio O. Lipari [Phys. Rev. B 6, 681 (1972)]. The author's affiliation should be changed to read: Department of Physics and Materials Research Laboratory, University of Illinois, Urbana, Illinois 61801 and Xerox Corporation, Rochester Research Center, Rochester, New York 14580.

Excitation Spectra of Charge-Transfer Complexes in Molecular Crystals, C. Mavroyannis [Phys. Rev. B 6, 2463 (1972)]. Part of Eq. (58) was inadvertently obscured. The full equation should read as follows:

$$\text{Im}G(\vec{k}\nu; \omega) = \frac{1}{2\pi} (\omega - \bar{\omega}_{\vec{k}\nu})^{-1} \times \frac{\text{Im}\epsilon_{\vec{k}\nu}(\omega)}{[\text{Re}\epsilon_{\vec{k}\nu}(\omega) + J_{\nu 0, 0\nu}(\vec{k})/(\omega - \bar{\omega}_{\vec{k}\nu})]^2 + [\text{Im}\epsilon_{\vec{k}\nu}(\omega)]^2}. \quad (58)$$

Other typographical errors in the paper are as follow. In Eqs. (23) and (24) the factor $1/N$ should read $1/N^{1/2}$. On p. 2471, 11th line from the top, ω_{TC}^ν and ω_{TC}^0 should read ω_{CT}^ν and ω_{CT}^0 , respectively. In Eq. (48b), $G(\vec{k}\nu; \omega)$ should read $G(\vec{k}0; \omega)$. In Eq. (66), $\langle \alpha_{\lambda_3}^\dagger \alpha_{\lambda_3} \rangle$ should read $\langle \alpha_{\lambda_3}^\dagger \alpha_{\lambda_2} \rangle$.

Resonant Brillouin Scattering in GaAs, D. K. Garrod and Ralph Bray [Phys. Rev. B 6, 1314 (1972)]. The following references (Nos. 6–17) were omitted in the printing of the article:

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