ERRATA

Model for Quasi-One-Dimensional Antiferromagnets: Application to CsNiCl₃ [Phys. Rev. Lett. 62, 474 (1989)]

Ian Affleck

Mixing between the transverse-xz and longitudinal modes, which occurs for a triangular lattice, was overlooked. Consequently, the frequencies of xz modes become $\omega \pm$, where

$$\omega_{\pm}^{2}(\mathbf{k}) = (vk_{z})^{2} + 4J'v[3 - f(\mathbf{k}_{\perp})] + \Delta_{L}^{2}/2 \pm [(\Delta_{L}^{2}/2)^{2} + \tilde{f}(\mathbf{k}_{\perp})^{2}]^{1/2}$$

and

$$\tilde{f}(\mathbf{k}_{\perp}) = 4\sqrt{3}J'v[\sin(k_x) + \sin(-k_x/2 + \sqrt{3}k_y/2) + \sin(-k_x/2 - \sqrt{3}k_y/2)].$$

The second term in the formula for the neutron-scattering cross section becomes

$$g(\mathbf{k})^{2}(1+\hat{k}_{y}^{2})\frac{1}{4}\sum_{s=\pm 1}\sum_{\pm \frac{1}{2}}\frac{[\tilde{f}-s(\omega_{1}^{2}-\omega_{\pm}^{2})]^{2}}{\omega+[\tilde{f}^{2}+(\omega_{1}^{2}-\omega_{\pm}^{2})^{2}]}(\mathbf{k}'+s\mathbf{k}_{2})\cdot\delta[\omega-\omega_{\pm}(\mathbf{k}'+s\mathbf{k}_{2})].$$

The corrected spectrum is compared to experiment in Fig. 1, using the parameters v = 1.38 THz, J' = 0.0054 THz, and $\Delta = 0.32$ THz.

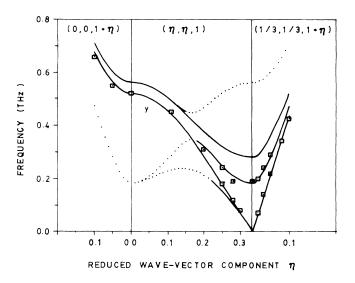


FIG. 1. The corrected spectrum predicted by this theory compared to experiment. Dotted lines indicate very low intensity. The y-polarized mode is labeled; all others have xz polarization.