Applications to soft-core lattice gases. Consider a lattice system with a nn "soft-core" repulsive potential, the configurational energy for a nn pair being positive but not infinite. We choose as covering sets all nn pairs, the partition function for a pair having the form

$$p_\alpha = 1 + z_1 + z_2 + C z_1 z_2, \quad 0 < C < 1 .$$

Again we look for a region M_α such that P_α cannot vanish for $z_1,\ z_2 \notin M_\alpha$. One choice is the exterior of a circle:

$$M_\alpha = \{ z : |z| \geq |C^{-1}[-1 + (1-C)^{1/2}]| \} .$$

For a lattice with coordination number q each site belongs to q covering sets, so the zero-free region for $P(z)$ is the interior of the circle

$$L = (\sim M_\alpha)^q = \{ z : |z| < |C^{-1}[-1 + (1-C)^{1/2}]|^q \}$$

and $R = |C^{-1}[-1 + (1-C)^{1/2}]|^q$.[12]

The author thanks Dr. L. K. Runnels of L. S. U. for enlightening discussions on the ideas presented.

---

*Work supported by N. I. H. Grant No. GM 13190-06.

[1] L. Onsager, Phys. Rev. 65, 404 (1952).
[2] T. D. Lee and C. N. Yang, Phys. Rev. 87, 410 (1952).
[3] M. Suzuki and M. E. Fisher, J. Math. Phys. 12, 235 (1971).
[4] D. Ruelle, Phys. Rev. Letters 26, 303 (1971).
[5] L. K. Runnels and J. B. Hubbard, J. Stat. Phys. (to be published).
[6] See *Statistical Mechanics*, edited by T. A. Bak (Benjamin, New York, 1967), p. 108.
[7] For details see Ref. 5.
[8] L. K. Runnels, J. Math. Phys. 11, 842 (1970).
[9] O. J. Heilmann and E. H. Lieb, Phys. Rev. Letters 24, 1412 (1970).
[10] A proof of this is given in Ref. 5.
[11] The Groeneveld lower bound is $R_G = [e\,(2q-1)]^{-1}$.
[12] For this case $R_G = \{e\,[1 + q\,(1-C)]\}^{-1}$.

PHYSICAL REVIEW A VOLUME 6, NUMBER 4 OCTOBER 1972

ERRATA

Electron Correlations in the Unified Model for Stark Broadening, H. Capes and D. Voslamber [Phys. Rev. A 5, 2528 (1972)]. Replace ω by $(\omega_0 + \omega)$ in line 16, column 1, p. 2532; line 17, column 2, p. 2534; the long equation on p. 2534; and line 21, column 1, p. 2534.

Spatial Period of Band Oscillations in the Dielectric Electrohydrodynamical Instability of a Nematic Liquid Crystal, Y. Galerne, G. Durand, and M. Veyssié [Phys. Rev. A 6, 484 (1972)]. On p. 485, Eq. (3) should read

$$\omega_i \tau = (K_{33}/2\eta D)\, C_i \quad (i = m \text{ or } l) ,$$

and Eq. (4) should read

$$(K_{33} q^2/2\eta)\tau = 0.5 + 0.23\omega\tau$$
$$= (K_{33} q_0^2/2\eta)\,\tau + 0.23\omega\tau .$$

On p. 486, line 18 should read $\eta = 0.15 \pm 0.07$ (cgs units) instead of 0.30 ± 0.15, and line 21 should read $\eta = 0.22 \pm 0.1$ (cgs units) instead of $\eta = 0.45 \pm 0.25$.

On p. 486, line 22 should read: "These values of η are *close to* the one computed from Gähwiller's measurements[9] ($\eta = 0.2$); the observed *incertainty on* η is partly due to the..."

On p. 486, line 38 should read: "...using Eq. (3), we find $\eta D = 0.15 \times 10^{-7}$.