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ERRATUM

J. Physique Lett. 39 (1978) L-99CRITICAL INDICES TO $O(1/n^2)$ FOR A THREE DIMENSIONAL SYSTEM
WITH SHORT RANGE FORCES

I. KONDOR and T. TEMESVÁRI

After our paper had been published, we received a letter from Y. Okabe pointing out a discrepancy between our results and those obtained by him, in collaboration with M. Oku, for the critical indices β , γ and ν at $d = 3$, $T \neq T_c$ from the expansion to $O(1/n^2)$ of a (discrete) n -vector model with short range forces. Checking our calculation once more we discovered a pair of related errors, one in an irreducible polarization diagram, the other in its corresponding vertex graph, which led to incorrect values for the indices λ and μ , without violating the scaling law between them.

The correct second order terms are

$$\lambda_2 = \frac{64}{n^2 \pi^4} \left(\frac{16}{27} - \pi^2 \right)$$

and

$$\mu_2 = \frac{32}{n^2 \pi^4} \left(\frac{32}{27} - \pi^2 \right),$$

whence the corrections for other indices

$$\alpha_2 = -\frac{96}{n^2 \pi^4} \left(\frac{112}{27} - \pi^2 \right), \quad \beta_2 = \frac{16}{n^2 \pi^4} \left(\frac{8}{3} - \pi^2 \right),$$

$$\gamma_2 = \frac{64}{n^2 \pi^4} \left(\frac{44}{9} - \pi^2 \right) \quad \text{and} \quad \nu_2 = \frac{32}{n^2 \pi^4} \left(\frac{112}{27} - \pi^2 \right)$$

follow through scaling laws. The last three are in agreement with the direct calculation by Okabe and Oku.

The difference from our earlier results is not too large (of the order of a few per cent for $n = 3$) and does not modify the conclusion that a direct comparison between the accepted exponent values and those obtained from $1/n$ expansion is meaningless for small n 's.

We are grateful to Dr. Okabe for informing us about the discrepancy and also for sending us his papers prior to publication.