

Critical exponents from the large N expansion for the three-dimensional $O(3)$ σ model

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Corrigendum

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The construction of the Padé–Borel estimate for the critical exponent ν at $N = 3$ was incorrect. Instead equation (5) ought to have read

$$\nu = 3 \int_0^{\infty} dt \frac{e^{-3t}}{\left[1 + \frac{32t}{3\pi^2} + \left(\frac{8t}{3\pi^2} \right)^2 \left[\frac{20}{3} + \frac{9\pi^2}{4} \right] \right]} \quad (1)$$

which gives a new estimate of 0.685 for the critical exponent. This is closer to the accepted experimental value of 0.71. For the case of $N = 4$ a similar Padé–Borel estimate for ν gives 0.746.

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