

Erratum: Unified static renormalization-group treatment of finite-temperature crossovers close to a quantum critical point [Phys. Rev. B 75, 014105 (2007)]

M. T. Mercaldo, L. De Cesare, and I. Rabuffo

Dipartimento di Fisica “E.R. Caianiello,” Università di Salerno and CNISM, Unità di Salerno, I-84081 Baronissi (Salerno) Italy

A. Caramico D’Auria

Dipartimento di Scienze Fisiche, Università di Napoli Federico II and “Coherentia,” CNR-INFM, I-80125 Napoli, Italy

(Received 12 November 2007; published 4 January 2008)

DOI: [10.1103/PhysRevB.77.029901](https://doi.org/10.1103/PhysRevB.77.029901)

PACS number(s): 64.60.A–, 05.70.Jk, 99.10.Cd

We correct some misprints that appear in the original paper.

In Table I on page 5 of the original article there are a few misprints in the column which gives the expressions for the quantity called $G(r_0, T)$, namely, this quantity is defined without the coefficient K_d and the integration variable k is missing. This column is given correctly in Table I below.

TABLE I. Explicit expressions of the function $G(r_0, T)$ for the three classes of systems we are investigating (Columns 1 and 4 of Table I of the original paper).

$\varphi(\vec{k}, \omega_l)$	$G(r_0, T)$
ω_l^2	$\int_0^1 dk k^{d-1} \frac{1}{2} \frac{\coth[(1/2T)\sqrt{r_0+k^2}]}{\sqrt{r_0+k^2}}$
$-i\omega_l$	$\int_0^1 dk k^{d-1} \frac{1}{2} \coth \frac{r_0+k^2}{2T}$
$ \omega_l $	$\int_0^1 dk k^{d-1} \int_0^1 \frac{d\omega}{\pi} \left[\coth \frac{\omega}{2T} \right] \frac{\omega}{(r_0+k^2)^2 + \omega^2}$

On page 5 Eq. (5.2) reads

$$e^{2l^*} [1 + (n+8)K_d(u_0/\varepsilon)T(e^{\varepsilon l^*} - 1)]^{-(n+2)/(n+8)} t(r_0, T) = 1. \quad (5.2)$$

On page 6 the correct expressions for the exponent ν_r in Eq. (5.7) are

$$\nu_r = \begin{cases} \frac{1}{2}, & \text{if } r_0 \gg r_{0c}(T) + [K_d(n+8)(u_0/\varepsilon)T]^{2/\varepsilon} \\ \frac{1}{2} \left(1 + \frac{n+2}{2(n+8)} \varepsilon \right), & \text{if } r_{0c}(T) < r_0 \leq r_{0c}(T) + [K_d(n+8)(u_0/\varepsilon)T]^{2/\varepsilon}. \end{cases} \quad (5.7)$$

On page 11 in Eq. (7.15) there is an error in the exponent of T . The correct equation is

$$\frac{C_s(r_0, T)}{T} \sim \frac{d}{2^{d+1} \pi^{d/2}} (n+2) u_0 g^{d/2+1} T^{(d-8)/2} e^{-g/T}. \quad (7.15)$$

Lastly, on the same page in the last row of the same column it should be $T_2(r_0) \simeq (r_0 - r_{0c})^{2/2}$, where in the original article is written $T_1(r_0)$.

These misprints do not affect the results and the conclusions of the paper.