

**Erratum: Conformal invariance constraints in the $O(N)$ models:
A study within the nonperturbative renormalization group
[Phys. Rev. E **111**, 054126 (2025)]**

Santiago Cabrera , Gonzalo De Polsi , and Nicolás Wschebor 



(Received 19 April 2026; published 20 July 2026)

DOI: [10.1103/dplq-mvm9](https://doi.org/10.1103/dplq-mvm9)

We have detected some missprints in the article. These errors were not present in our codes and refer only to the writing of the article, so the results presented on it remain unchanged. Nevertheless, we would like to correct the incorrect formulas and apologize to our readers and the journal.

(1) Equation (9) must be replaced by

$$\begin{aligned} \partial_t \Gamma_k[\tilde{\phi}_a, \tilde{K}] &= \int_{\tilde{x}} \frac{\delta \Gamma_k}{\delta \tilde{\phi}_a(\tilde{x})} (\tilde{x}^\nu \tilde{\partial}_\nu + D_\varphi) \tilde{\phi}_a(\tilde{x}) - \int_{\tilde{x}} \tilde{K}(\tilde{x}) (\tilde{x}^\nu \tilde{\partial}_\nu + D_{\mathcal{O}}) \frac{\delta \Gamma_k}{\delta \tilde{K}(\tilde{x})} \\ &+ \frac{1}{2} \alpha \int_{\tilde{x}, \tilde{y}} [(d+2-\eta_k)r(|\tilde{x}-\tilde{y}|) + |\tilde{x}-\tilde{y}|r'(|\tilde{x}-\tilde{y}|)] \tilde{G}_{k,aa}[\tilde{x}, \tilde{y}]. \end{aligned}$$

(2) Equation (18) must be replaced by

$$\partial_t \gamma_k[\vec{\phi}] = \int_x \gamma_{k,a}^{(1)}[\vec{\phi}; x] (D_\varphi + x_\mu \partial_\mu) \phi_a(x) - \frac{1}{2} \text{Tr}[\dot{R}_k G_k \cdot \gamma_k^{(2)}[\vec{\phi}] \cdot G_k].$$

(3) Equation (20) must be replaced by

$$\lambda \hat{\gamma}[\vec{\phi}] = \int_x \hat{\gamma}_a^{(1)}[\vec{\phi}; x] (D_\varphi + x_\mu \partial_\mu) \phi_a(x) - \frac{1}{2} \text{Tr}[\dot{R}_k G_k \cdot \hat{\gamma}^{(2)}[\vec{\phi}] \cdot G_k].$$

(4) Equation (22) must be replaced by

$$\partial_t \hat{\Gamma}_k[\vec{\phi}] + (D_{\mathcal{O}} - d) \hat{\Gamma}_k[\vec{\phi}] = \int_x \hat{\Gamma}_a^{(1)}[\vec{\phi}; x] (D_\varphi + x_\mu \partial_\mu) \phi_a - \frac{1}{2} \text{Tr}[\dot{R}_k G_k \cdot \hat{\Gamma}_k^{(2)}[\vec{\phi}] \cdot G_k].$$

(5) Equation (23) must be replaced by

$$(D_{\mathcal{O}} - d) \hat{\Gamma}^*[\vec{\phi}] = \int_x \hat{\Gamma}_a^{*(1)}[\vec{\phi}; x] (D_\varphi + x_\mu \partial_\mu) \phi_a - \frac{1}{2} \text{Tr}[\dot{R}_k G_k \cdot \hat{\Gamma}_k^{*(2)}[\vec{\phi}] \cdot G_k].$$

(6) Equation (33) must be replaced by

$$\begin{aligned} \sum_{i=1}^n \left[p_i^\mu \frac{\partial^2}{\partial p_i^\nu \partial p_i^\nu} - 2p_i^\nu \frac{\partial^2}{\partial p_i^\nu \partial p_i^\mu} - 2D_\varphi \frac{\partial}{\partial p_i^\mu} \right] \Gamma_{a_1 \dots a_n}^{(n,1)}(p_1, \dots, p_n) - 2D_\varphi \phi_i \frac{\partial}{\partial r^\mu} \Gamma_{ia_1 \dots a_n}^{(n+1,1)}(r, p_1, \dots) \Big|_{r=0} \\ = - \int_q \dot{R}_k(q) G_{bc}(q) \left(\frac{\partial}{\partial q^\mu} + \frac{\partial}{\partial q'^\mu} \right) \{ H_{ca_1 \dots a_n d}^{(n,1)}(q, p_1, \dots, p_n, q') \} \Big|_{q'=q} G_{db}(q). \end{aligned}$$

We would like to thank Félix Rose for pointing out some of the errors we mention here.