PCCP

CORRECTION

View Article Online
View Journal | View Issue

Open Access Article. Published on 20 August 2014. Downloaded on 1/14/2026 1:25:11 PM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

Cite this: *Phys. Chem. Chem. Phys.*, 2014, **16**, 20248

Correction: Relative contributions of quantum and double layer capacitance to the supercapacitor performance of carbon nanotubes in an ionic liquid

Alexander J. Pak,† Eunsu Paek† and Gyeong S. Hwang*

DOI: 10.1039/c4cp90113d

www.rsc.org/pccp

Correction for 'Relative contributions of quantum and double layer capacitance to the supercapacitor performance of carbon nanotubes in an ionic liquid' by Alexander J. Pak, Eunsu Paek and Gyeong S. Hwang, *Phys. Chem. Chem. Phys.*, 2013, **15**, 19741–19747.

The following errata were found in the published article. However, the overall conclusions of the original article remain unaffected.

1. In our analysis, the DOS was mistakenly underestimated by a factor of two. As a result, the *y*-axis labels for the DOS and C_Q in Fig. 5 should be doubled and are corrected below.

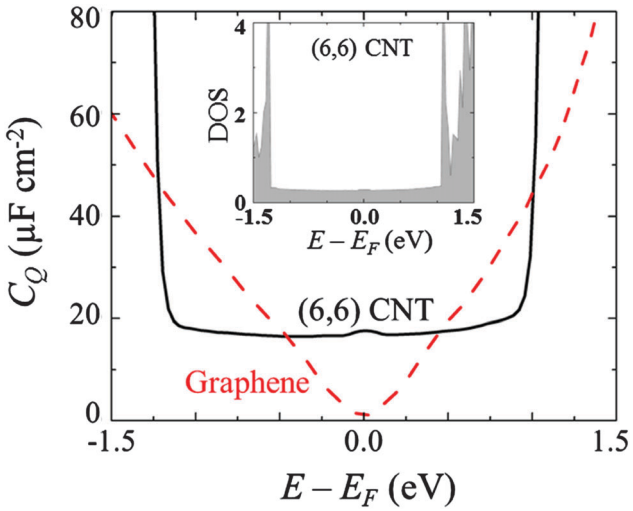

Fig. 5 Comparison of the quantum capacitance (C_Q) between the (6,6) CNT and graphene electrodes. E_F indicates the Fermi level. The inset shows the DOS (in eV^{-1} Å^{-1}) of the CNT.

2. The discussion of Fig. 5 on p. 19745 should be modified to reflect the corrected DOS and C_Q as follows:

(a) "One important feature to note is that the DOS is nearly constant ($\approx$0.29 eV^{-1} Å^{-1}) when $|E| < 1.0$ eV..."

(b) "The $C_{Q,CNT}$ exhibits a constant profile with a value around 18.0 μF cm^{-2} when $|\phi_C| < 1.0$ V"

(c) There is an additional typo which should be corrected as follows: "The approximated DOS in this energy range ($\approx$0.24 eV^{-1} Å^{-1}) shows good agreement with DFT calculations..."

Department of Chemical Engineering, The University of Texas at Austin, Texas 78712, USA. E-mail: gshwang@che.utexas.edu; Fax: +1 512 471 7060; Tel: +1 512 471 4847

† These authors equally contributed to this work.

This journal is © the Owner Societies 2014

Open Access Article. Published on 20 August 2014. Downloaded on 1/14/2026 1:25:11 PM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

3. In Fig. 6, the C_T and ϕ_a are subsequently corrected as shown below.

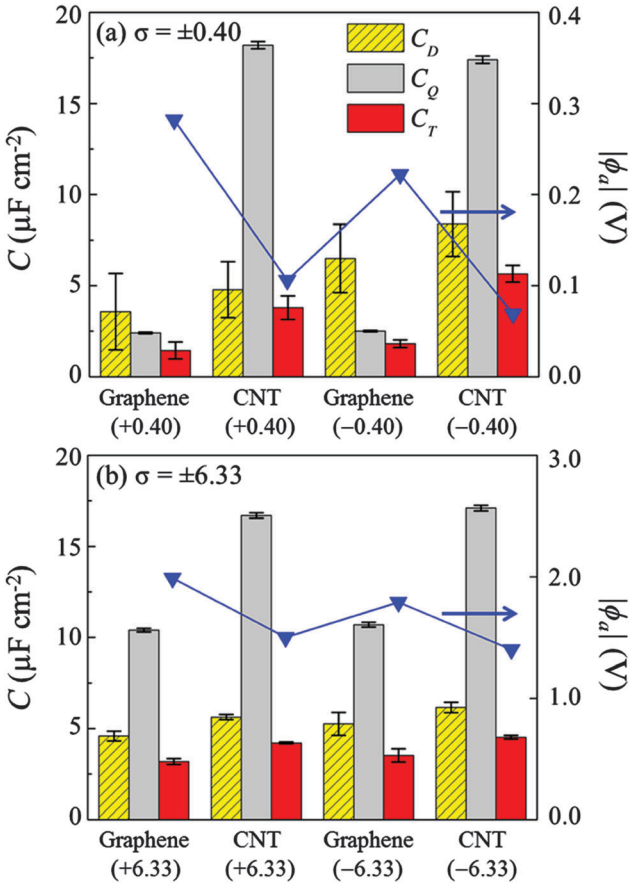

Fig. 6 The double layer (C_D), quantum (C_Q), and total interfacial (C_T) capacitance at the listed σ (in μC cm^{-2}). The (▼) indicates the corresponding applied potential (ϕ_a).

4. The discussion of Fig. 6 on p. 19745 should be corrected as follows:

(a) "When $\sigma = \pm 0.40$ μC cm^{-2} [Fig. 6(a)], the C_T for the CNT electrode is predicted to be $C_{T,CNT} \approx 3.8$–5.7 μF cm^{-2} which is 2.7–3.2 times larger than the graphene case with $C_{T,Gr} \approx 1.4$–1.8 μF cm^{-2}."

(b) "However, when $\sigma = \pm 6.33$ μC cm^{-2} [Fig. 6(b)], $C_{T,Gr}$ and $C_{T,CNT}$ are much more comparable ($\approx$3.2–4.5 μF cm^{-2}) although $C_{T,CNT}$ is around 28–31% larger than $C_{T,Gr}$.

This is primarily due to the large increase (slight decrease) in $C_{Q,Gr}$ ($C_{Q,CNT}$) such that both $C_{T,Gr}$ and $C_{T,CNT}$ are primarily limited by the respective C_D values."

5. The conclusion on p. 19746 should be corrected as follows:

(a) "...the C_Q of the (6,6) CNT is nearly constant (18 μF cm^{-2})..."

(b) "However, the enhancement of C_T is likely diminished (predicted to be 28–31%)..."

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.