

## RETRACTION

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## Retraction: High uniformity and improved nonlinearity by embedding nanocrystals in selector-less resistive random access memory

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Retraction of 'High uniformity and improved nonlinearity by embedding nanocrystals in selector-less resistive random access memory' by Writam Banerjee *et al.*, *Nanoscale*, 2014, advance article (C4NR05077K)

We, the named authors, hereby wholly retract this *Nanoscale* article. The article reports high uniformity and an improvement in nonlinearity by embedding nanocrystals in selector-less resistive random access memory. Upon repeating the experiments, we found that the results reported were not reproducible and the improvement upon reported values in the literature that we first observed was not distinguishable. After a detailed analysis of the RRAM (Resistive random access memory) using HRTEM, we have found that no switching layer was observed on the sides of the W electrode and that there was an unwanted WO<sub>x</sub> layer at the W/AlO<sub>x</sub> interface, both of which we are unable to account for. We retract this article to avoid misleading readers and intend to undertake further tests to confirm our previous results. We apologise for any inconvenience to *Nanoscale* and the readers.

Signed: Writam Banerjee\*, Nianduan Lu, Ling Li, Pengxiao Sun, Qi Liu, Hangbing Lv, Shibing Long and Ming Liu, 4th February 2015.

Retraction endorsed by Fiona McKenzie, Executive Editor, *Nanoscale*.

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