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【125】 Three Dimensional Lithography on Silicon Nanowire Arrays - An Electrochemical Approach

Thursday 29 August 2019 18:00 (15 minutes)

We will report on a templated electrochemical technique for patterning arrays of single-crystalline Si nanowires with feature dimensions down to 5 nm. This technique, termed three-dimensional electrochemical axial lithography (3DEAL), [1] allows the design and parallel fabrication of hybrid silicon nanowire arrays decorated with complex metal nano-ring architectures in a flexible and modular approach. 3DEAL is based on simple chemical and electrochemical approaches that were developed previously [2] and can produce homogeneous macroscale metal-Si wire arrays.

[1] F. J., Wendisch, M. Saller, A. Eadie, A. Reyer, M. Musso, M. Rey, N. Vogel, O. Diwald, G. R. Bourret *Nano Letters* **2018**, 18, 11, 7343-7349

[2] T. Ozel, G. R. Bourret and C. A. Mirkin *Nat. Nanotech.* **2015**, 10, 319-324

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