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Graphene Nanostructures, Fabrication, Physics and Devices. LI LU, Beijing National Laboratory for Condensed Matter Physics, and the Institute of Physics, Chinese Academy of Sciences, Beijing 100080, China., S. P. LIU, L. W. LIU, F. ZHOU, H. F. YANG, H. LI, Z. JIN, A. Z. JIN, J. MIAO, W. J. KONG, J. H. FANG, C. Z. GU, Y. X. WENG, Q. K. XUE, Beijing National Laboratory for Condensed Matter Physics, and the Institute of Physics, Chinese Academy of Sciences, Beijing 100080, China., S. WANG, L.-M. PENG, Department of Electronics, Peking University, Beijing 100871, China., B. JIANG, Q. S. ZHENG, Department of Engineering Mechanics, Tsinghua University, Beijing 100084, China. — We propose to construct nanoelectronic circuits by directly tailoring graphite, and demonstrate the feasibility of this idea by fabricating specially designed multi-terminal graphene patterns down to a minimum strip width of 50 nm. Electron tunneling measurement confirms the formation of quasi-one-dimensional subbands due to the effect of quantum size confinement. This new approach would in the future provide an efficient way of producing numerous layers of identical graphene nanoelectronic circuits.

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