

Bottom-up grown nanowire quantum devices

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Signatures of Majorana's have been obtained in devices based on InSb nanowires coupled to a superconductor [1]. Different schemes for uncovering their non-Abelian statistics are proposed, for which a nanowire network assembly is needed. Here, we demonstrate a generic process by which we can design any proposed nanowire network device by manipulating an InP substrate and thereby the nanowire growth position and orientation [2]. Nanowire “hashtag” structures are grown in which phase coherent transport is demonstrated by the Aharonov–Bohm (AB) effect. In addition, we can in-situ grow Al islands on the nanowires, resulting in a quantized Majorana signal [3].

1. V. Mourik *et al.*, *Science* **2012**, 336, 1003
2. S. Gazibegovic *et al.* *Nature* 548 **2017**, 434
3. H. Zhang *et al.* *Nature* 556, **2018**, 74