Ag-catalyzed InAs nanowires grown on transferable graphite flakes - DTU Orbit (17/02/2019)

**Ag-catalyzed InAs nanowires grown on transferable graphite flakes**

Semiconducting nanowires grown by quasi-van-der-Waals epitaxy on graphite flakes are a new class of hybrid materials that hold promise for scalable nanostructured devices within opto-electronics. Here we report on high aspect ratio and stacking fault free Ag-seeded InAs nanowires grown on exfoliated graphite flakes by molecular beam epitaxy. Ag catalyzes the InAs nanowire growth selectively on the graphite flakes and not on the underlying InAs substrates. This allows for easy transfer of the flexible graphite flakes with as-grown nanowire ensembles to arbitrary substrates by a micro-needle manipulator. Besides the possibilities for fabricating novel nanostructure device designs, we show how this method is used to study the parasitic growth and bicrystal match between the graphite flake and the nanowires by transmission electron microscopy.

**General information**

State: Published
Organisations: Department of Wind Energy, Materials science and characterization, University of Copenhagen, Chalmers University of Technology
Number of pages: 7
Publication date: 2016
Peer-reviewed: Yes

**Publication information**

Journal: Nanotechnology
Volume: 27
Issue number: 36
Article number: 365603
ISSN (Print): 0957-4484
Ratings:

- BFI (2019): BFI-level 1
- Web of Science (2019): Indexed yes
- BFI (2018): BFI-level 1
- Web of Science (2018): Indexed yes
- BFI (2017): BFI-level 2
- Scopus rating (2017): CiteScore 3.01 SJR 1.079 SNIP 0.788
- Web of Science (2017): Impact factor 3.404
- Web of Science (2017): Indexed yes
- BFI (2016): BFI-level 2
- Scopus rating (2016): CiteScore 2.87 SJR 1.339 SNIP 0.945
- Web of Science (2016): Impact factor 3.44
- Web of Science (2016): Indexed yes
- BFI (2015): BFI-level 2
- Scopus rating (2015): CiteScore 3.07 SJR 1.257 SNIP 1.035
- Web of Science (2015): Indexed yes
- BFI (2014): BFI-level 2
- Scopus rating (2014): CiteScore 3.09 SJR 1.497 SNIP 1.269
- Web of Science (2014): Impact factor 3.821
- Web of Science (2014): Indexed yes
- BFI (2013): BFI-level 2
- Scopus rating (2013): CiteScore 2.74 SJR 1.602 SNIP 1.231
- Web of Science (2013): Impact factor 3.672
- ISI indexed (2013): ISI indexed yes
- Web of Science (2013): Indexed yes
- BFI (2012): BFI-level 2
- Scopus rating (2012): CiteScore 3.34 SJR 1.861 SNIP 1.307
- Web of Science (2012): Impact factor 3.842
- ISI indexed (2012): ISI indexed yes