

Eighth International Workshop on Epitaxial Semiconductors on Patterned Substrates and Novel Index Surfaces

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This year, Italy hosted the VIII ESPS-NIS workshop. It was organized by the L-NESS Inter-University Laboratory (Politecnico di Milano and Università di Milano Bicocca) in Como (Italy) under the auspices of Prof. Leo Miglio. The program of 10 invited speakers, 30 contributed and numerous posters covered a wide range of topics, all connected with the study of substrate patterning and high index substrate influence on the growth and the control of semiconductor nanostructures.

Presentation was given on novel patterning techniques, both top-down and bottom-up, and the effect of patterning on self-organized dots and wires. In particular, wires have recently attracted a wide attention, since they are important both in fundamental physics and in advanced electronics and photonics applications. New concept bottom-up patterning techniques, like metallic droplet nano-drilling and droplet epitaxy local artificial substrates, were presented. Epitaxy of graphene on patterned substrates was also a topic of the workshop.

The possibility of controlling, by substrate patterning, the nucleation site and the strain relaxation of self-organized Stranski–Krastanow dots in Ge/Si and InAs/GaAs systems has motivated a strong effort as evidenced by the number and the quality of the contribution presented. Some very interesting features involve strain engineering, position and size control, defectivity reduction. In addition,

patterned substrates epitaxy inevitably involves growth on high index planes, which stimulated the understanding the effects of epitaxial growth of semiconductors on non-(100) surfaces.

The ESPS-NIS meeting discussed all these aspects, which include material growth, characterization, theory and device topics related to patterned substrates, novel index substrates and low dimensional structures. Once more the meeting achieved its aim of being a forum for lively discussion of up to date work, allowing the interaction of specialist of different fields of semiconductor science and technology put together by the common interest in the effects of patterning and surface orientation on nanostructure fabrication. The vast potential of interrelation of nanotechnology, patterning and surface science was highlighted.

The organizing committee would like to thank the speakers for their considerable efforts in making this workshop a success. A fundamental role in the organization was also played by the personnel of the the Centro di Cultura Scientifica Alessandro Volta of Como. Finally, special thanks are due to the University of Milano Bicocca and the Politecnico di Milano, Polo di Como whose sponsorship made this international workshop possible.

ESPS-NIS VIII

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