

Session 7 Graphene

Speaker: Jari Kinaret – Chalmers University of Technology, Gothenburg, Sweden

Discussant: Dimitris Pavlidis – CNRS, Lille, France

Rapporteur: Lars Hedrich, University of Frankfurt, Germany

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- Very young technique
- Key improvement demanded:
 - Bandgap \leftrightarrow Gain
 - Fabrication
- Benchmarking:
 - Criteria are available
 - Some are met, e.g..
 - Devices at room temperature
 - Integrability
 - No „beyond CMOS“ due to lack of digital transistor
- Applications in
 - Optical
 - Printable, low cost devices
 - High speed & many more

Discussion

- Industrial applications will show evidence <> very young research

- Manufacturing
 - CVD <-> SIC
 - Substrate material
 - Temperature
- Transistor-Performance
 - Printable
 - Gap opening
- Undiscussed questions
 - Defects, yield

Summary

- New technology
- Flagship-pilot action
- Some clear advantages => applications are visible
- Direct comparison to CMOS
 - Digital Missing
 - Special analog, GHZ ...niche possible
- Manufacturing is just evolving

=> Definitely applicable, application areas have to evolve