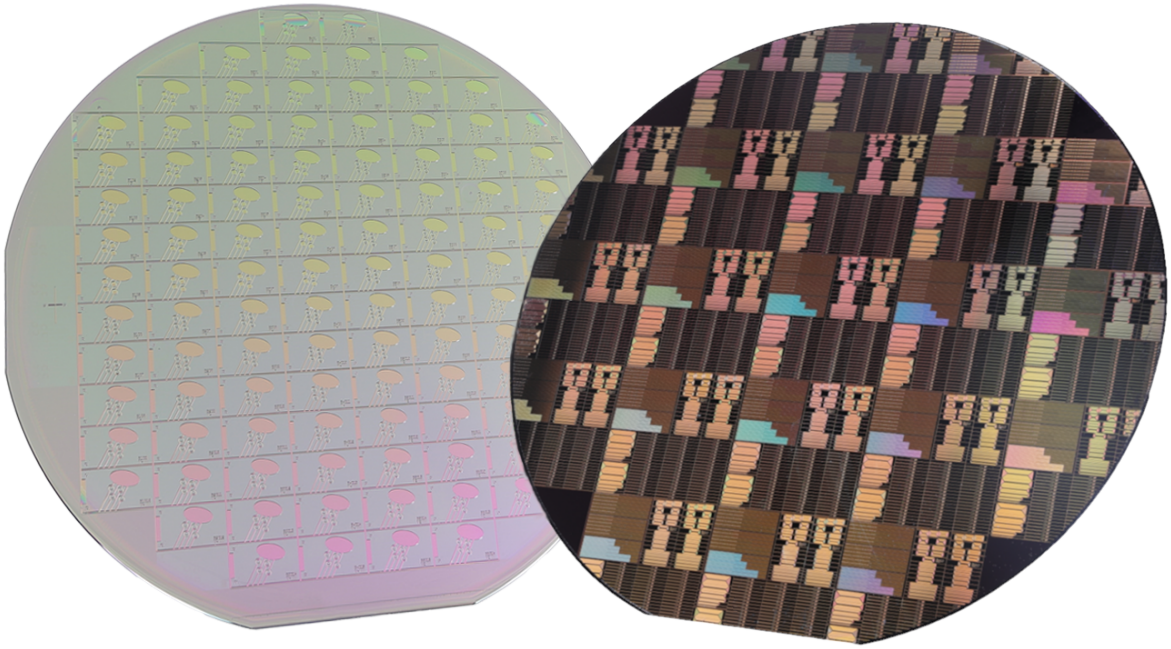
SILICON NITRIDE INTEGRATION PLATFORM

Fraunhofer HHI



AT A GLANCE

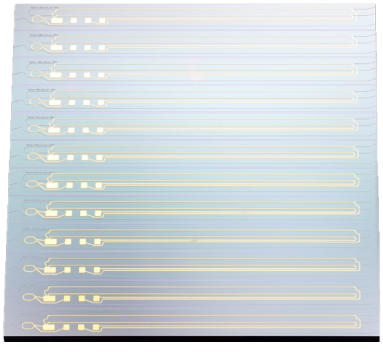
The SiN line of Fraunhofer HHI is specifically suitable for actives passives integration. Photonic building blocks including ring resonators, MMIs, AWGs, VOAs, tunable gratings and phase shifters.

Features

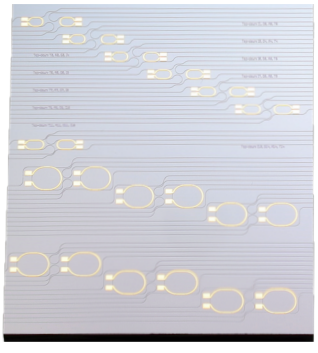
- Low-loss waveguides
- Passive and thermo-optical elements
- Efficient hybrid integration of active elements (InP, GaAs, PolyBoard etc.)
- VIS to NIR wavelength range
- Different thicknesses of Si_3N_4 available (200 nm / 400 nm / 800 nm)

Services

- PIC design based on PDK for different wavelength
- Customized design
- Fabrication and hybrid integration of active and passive components



Tuneable gratings



Tuneable ring resonators

Fraunhofer HHI

References

International R&D projects

QSNP
Qu-Test / Qu-Pilot
(funded by EU commission)

National R&D projects

PolyChrome Berlin
PoLiSiQ
optION
(funded by BMBF)

Association

PolyPhotonics e.V.
www.polyphotonics-berlin.de

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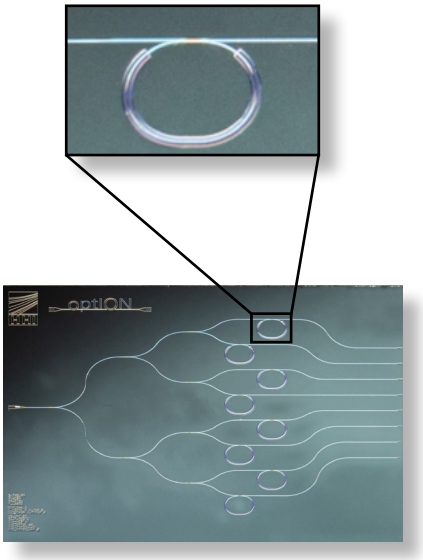
Applications

- Telecom / datacom
- Sensing and analytics
- Quantum technology
- Medical and life sciences

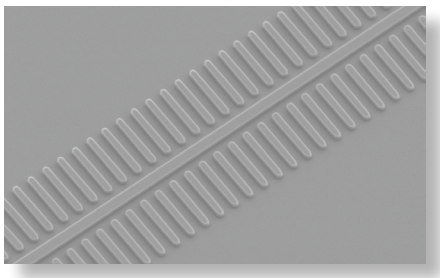
Technical Background

Low loss structures such as ring resonators, MMIs and AWGs, gratings as well as thermo-optical elements like phase shifters VOAs and tunable gratings are fabricated on wafer scale.
Customized designs are available.

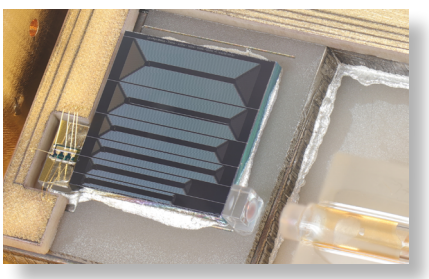


Ring resonators for sensing and analytics

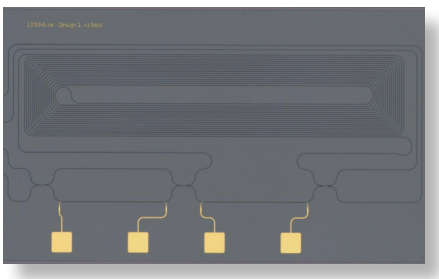
Switches



Gratings



Mode locked laser (InP-SiN integration)



Delay line interferometer