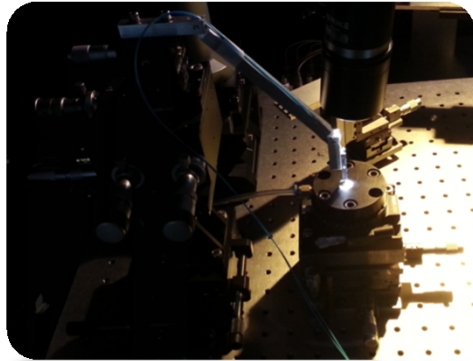


From Jan. 2013 to Feb. 2014

1 Setup



1. Optical measurement setup

- Motorized optical stage for fiber arrays
- Microscope, TL, OSA, PM

2. Measurement of Si-MRMs:

- DC characteristics
- Frequency responses

Cf. PC, 2013

3. Optical transmitter & receiver setup w/ Peter

- 40-Gb/s MZM, 25-GHz PD

2 Photodetector

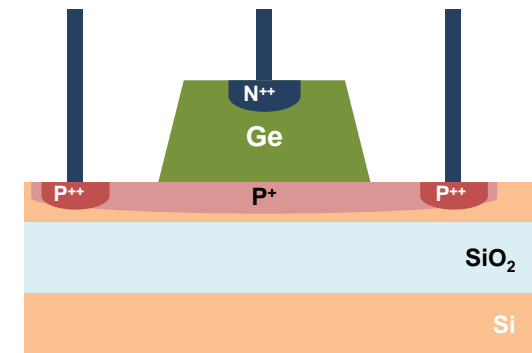


1. Ge-VPD measurement

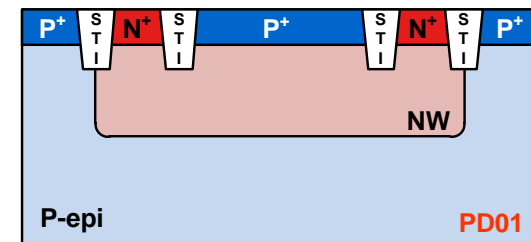
- Circuit modeling & absorption
- I-V characteristics
- Photodetection frequency responses

2. Si-PDs

- Junction dependent characteristics of CMOS-APDs
- Cf. COOC, 2013 (우수논문상)*
- Si-APDs w/ Dongbu 0.11- μm CIS technology



<Ge-VPD structure>



<Si-APD & SPAD>

Future Plan

- **Complete optical measurement setup**
 - Si-micro ring modulator & Ge-vertical photodetector
 - Data transmission & frequency response measurement

- **Measurement of Ge-VPDs**
 - Photodetection frequency response measurement in HSCS lab.
 - R, C circuit modeling → wire-bonded with HY's receiver
 - Paper or international conference plan

- **Si-APDs and SPADs research**
 - Dongbu 0.11- μm CIS technology
 - SPAD research & measurement setup
 - Additional design plan
 - Paper or international conference plan