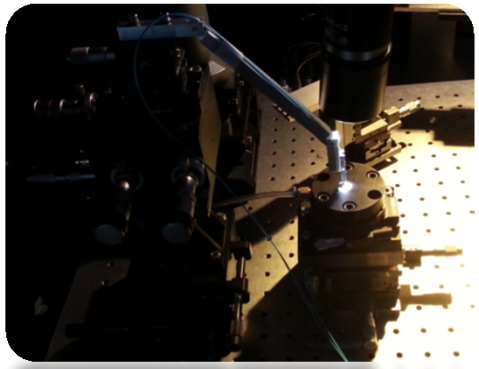
From Jan. 2013 to Feb. 2014

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

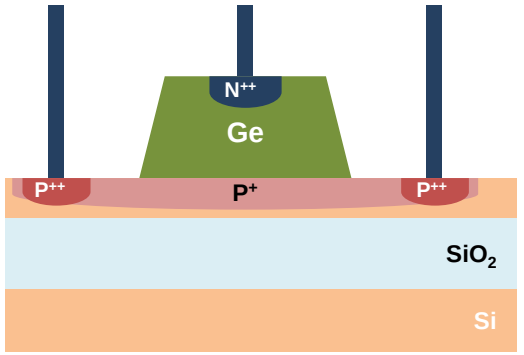
3. **Optical transmitter & receiver setup w/ Peter**
- 40-Gb/s MZM, 25-GHz PD

2 Photodetector

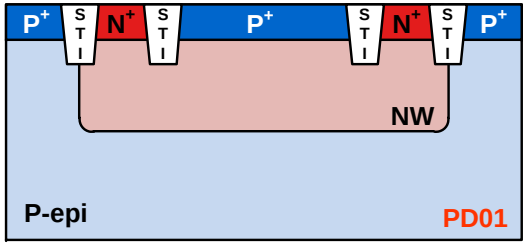
1. **Ge-VPD measurement**
- Circuit modeling & absorption
- I-V characteristics
- Photodetection frequency responses

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