

Introduksjonstime

- Språk ?
- Presentasjon av forelesere
- Presentasjon av studentene
- Orientering om lab opplegget
- Diverse
 - Lærebok
 - Kompendie
 - Web sider
- Litt om målesystem og sensorer

FYS 3230

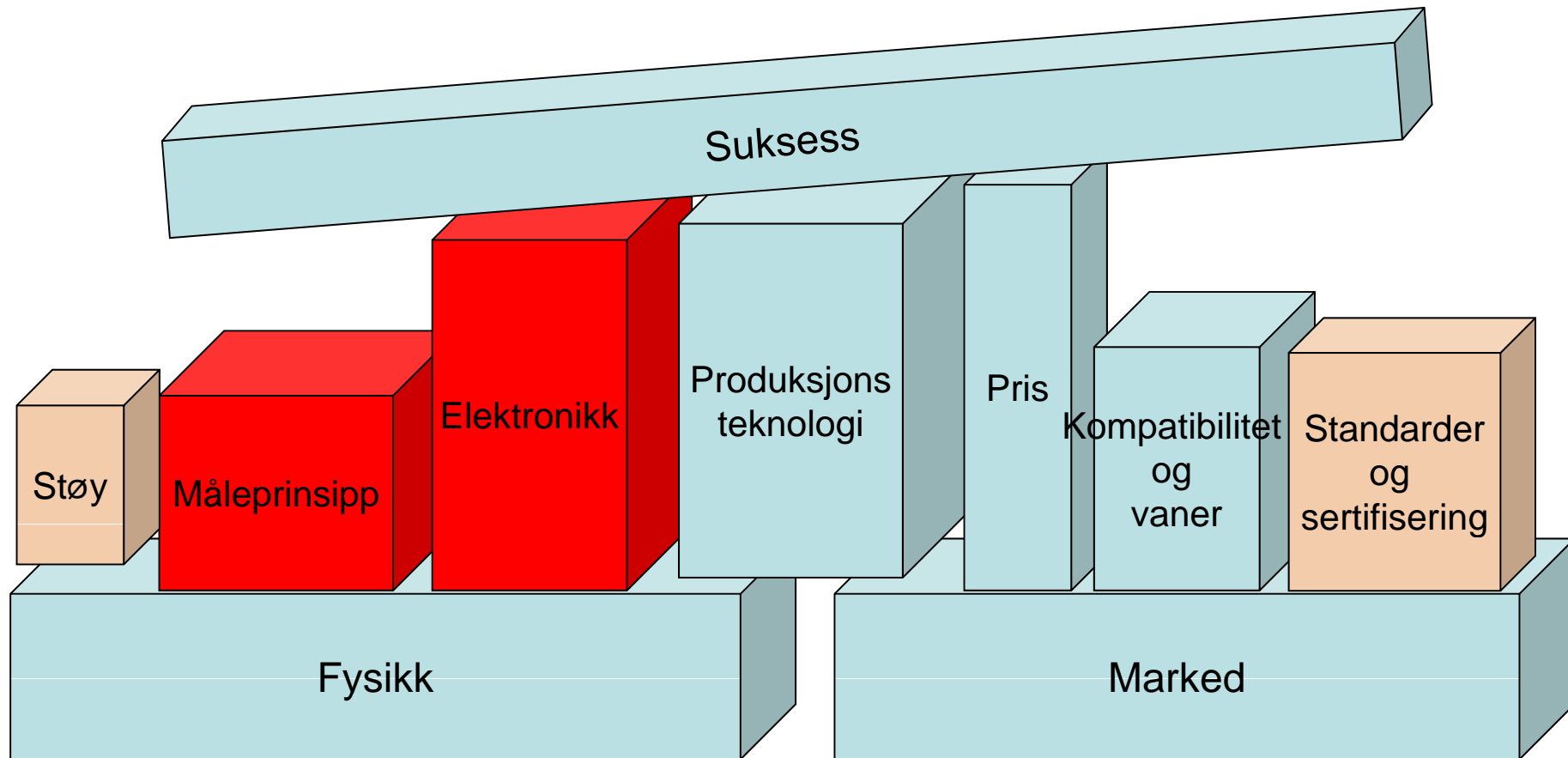
For hvem

- Dem som skal tolke målinger
- Dem som skal måle
- Dem som skal instrumentere
- Dem som skal lage sensorer

Hva

- Statistikk
- Systemteori
- Elektronikk
- Fysikk
 - El mag
 - Fast stoff fysikk
 - Dynamikk
 - (Mekanikk)
 - (Statistisk mekanikk)
 - (Optikk)

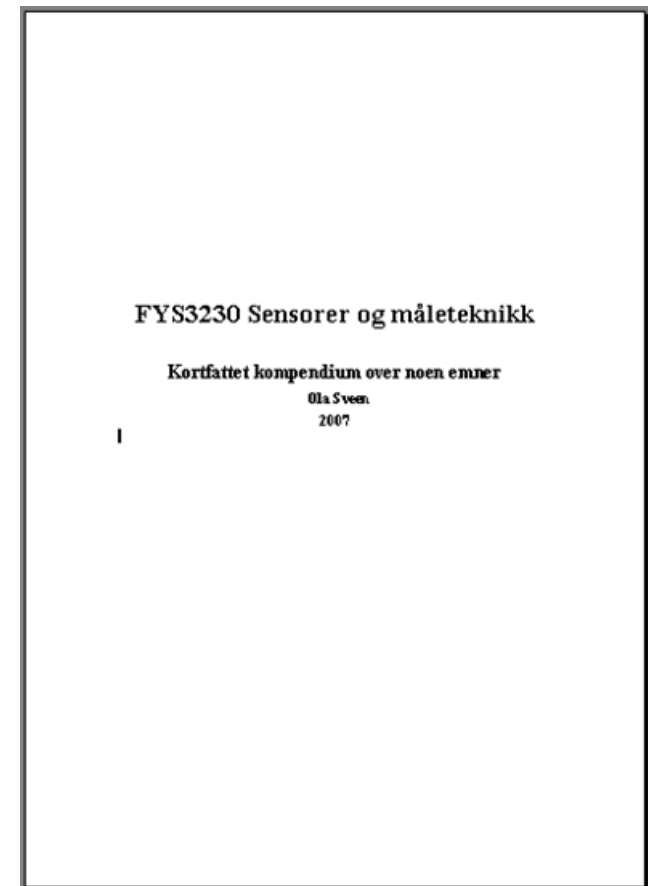
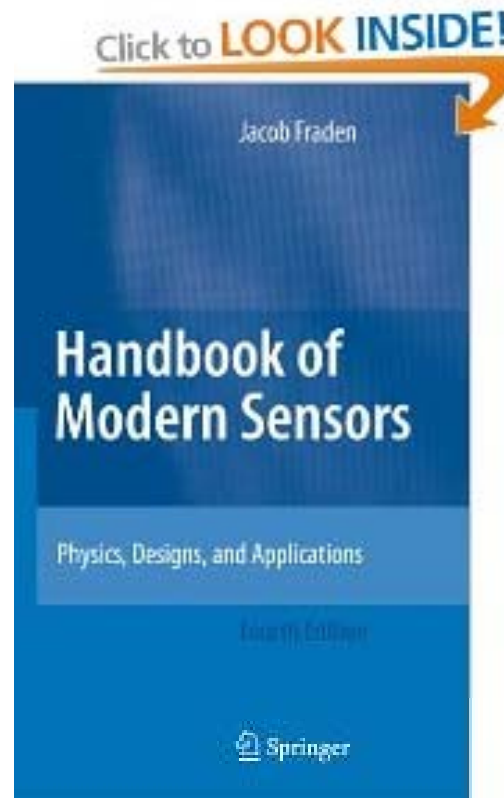
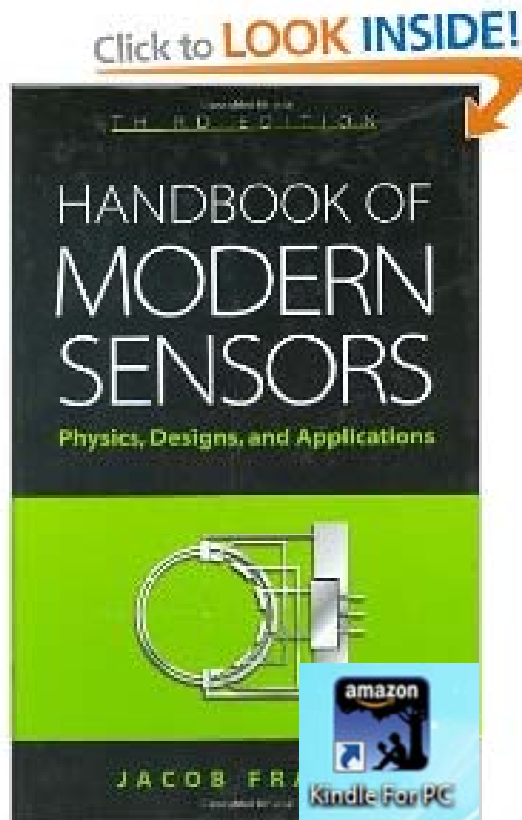
Suksessfaktorer for sensorer



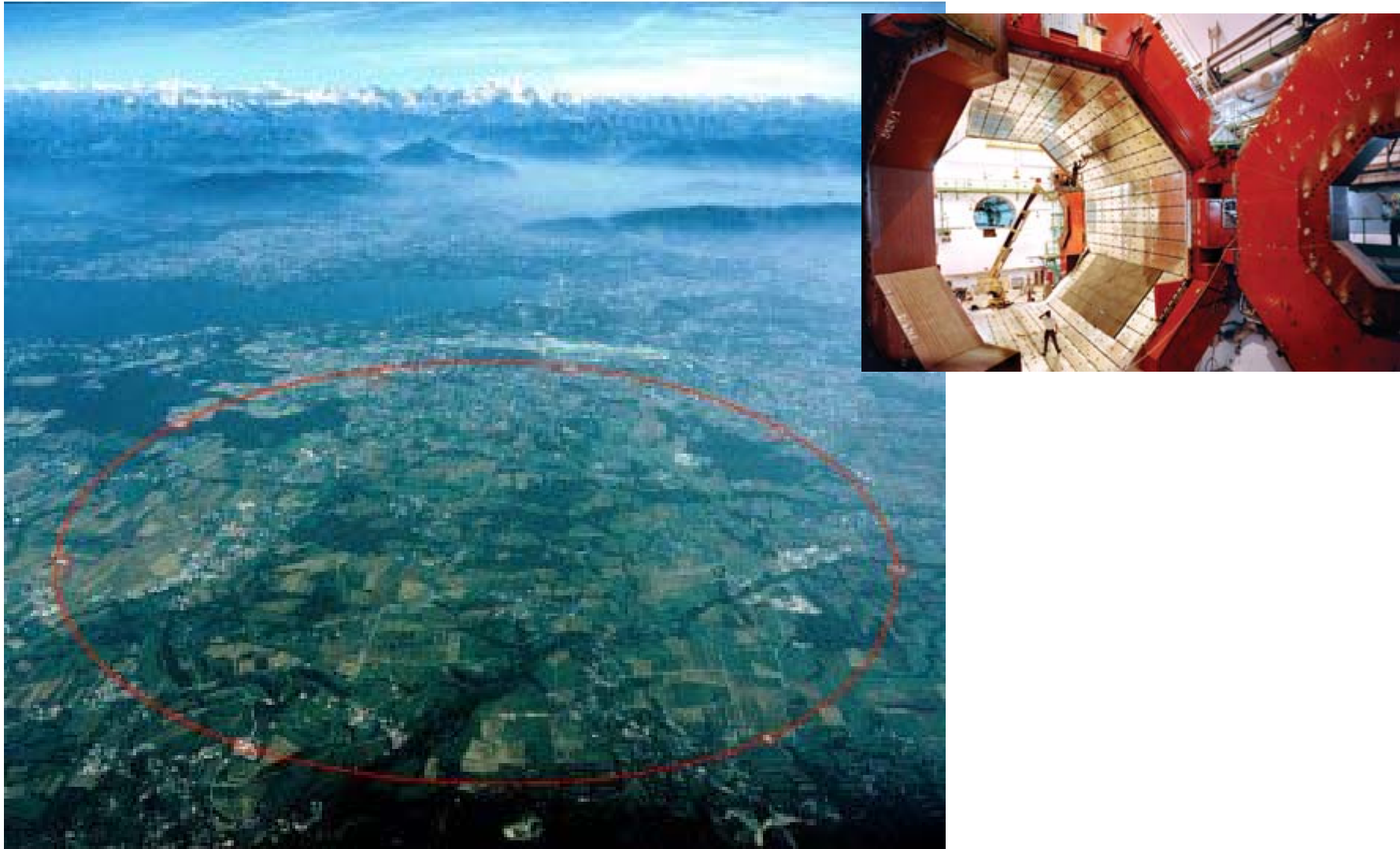
Undervisning

- Tirsdag 10:15-12
Lille Fy
 - Onsdag 12:15-14
Ø262 (normalt
øvinger)
 - Lab etter nærmere
avtale
1. Introduksjon
 2. Elektronikk
 3. Fysikk – sensor
 4. Eksamen

Lærebok

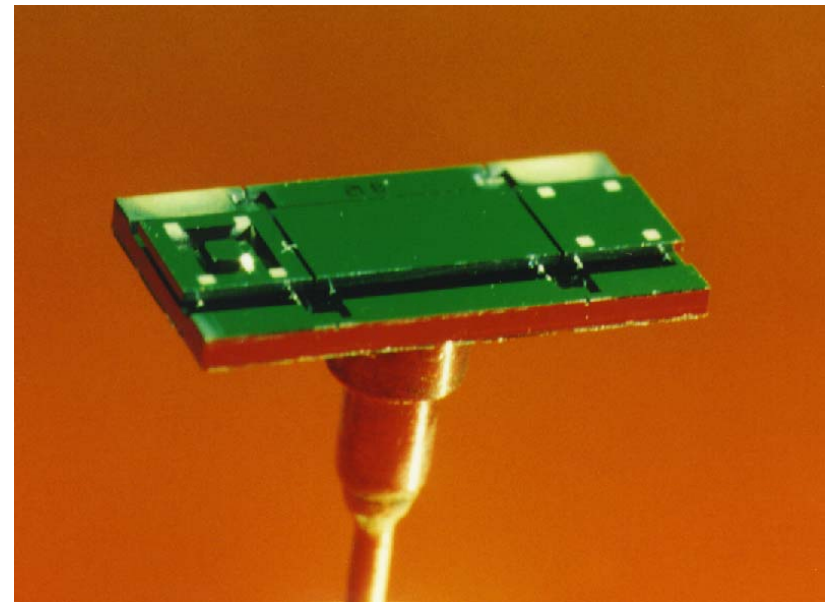


Akademisk målesystem og sensor

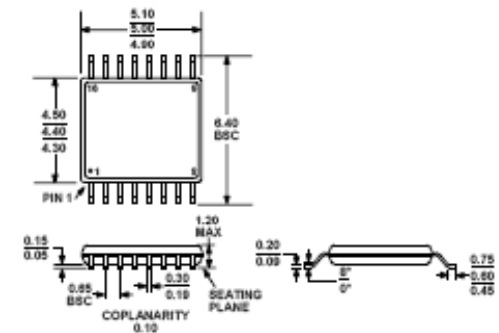


<http://aliceinfo.cern.ch/Public/index.html>

Industrielt målesystem og sensor



Instrumenteringsløsninger



COMPLIANT TO JEDEC STANDARDS MO-153-AB
Figure 44. 16-Lead Thin Shrink Small Outline Package (TSSOP)
(RL-16)
Dimensions shown in millimeters

Målesystem – Sensor - Transducer

Fig. 1.1 Purpose of measurement system

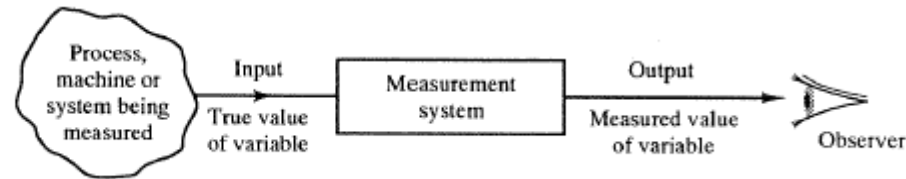


Fig. 1.2 General structure of measurement system

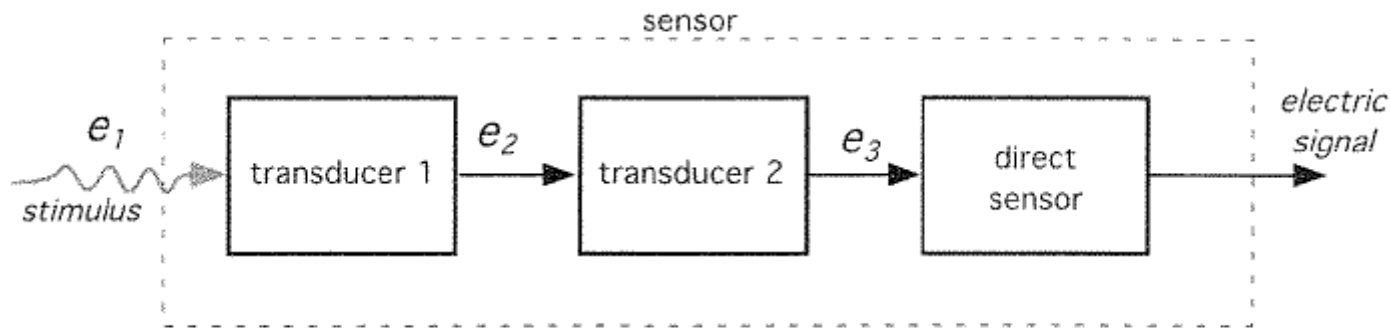
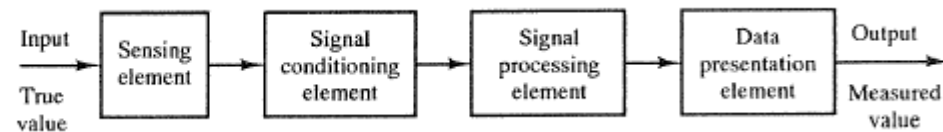


Fig. 1.2. A sensor may incorporate several transducers. e_1 , e_2 , and so on are various types of energy. Note that the last part is a direct sensor.

Direkte og indirekte sensorer

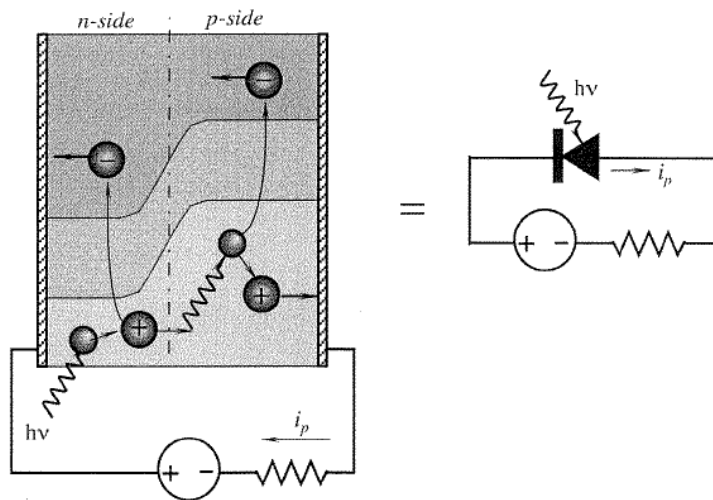


Fig. 14.3. Structure of a photodiode.

En direkte sensor gir en elektrisk respons i ett trinn

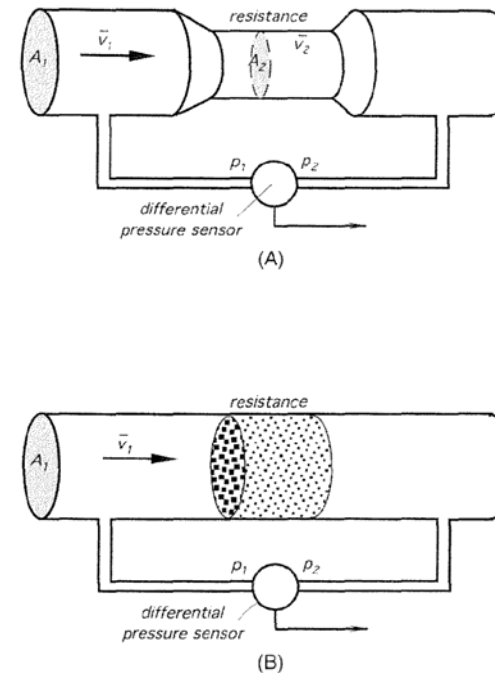


Fig. 11.3. Two types of flow resistor: a narrow channel (A) and a porous plug (B).

En indirekte sensor overfører først energi fra en form til en annen. Ofte via en transducer.

Aktive og passive sensorer

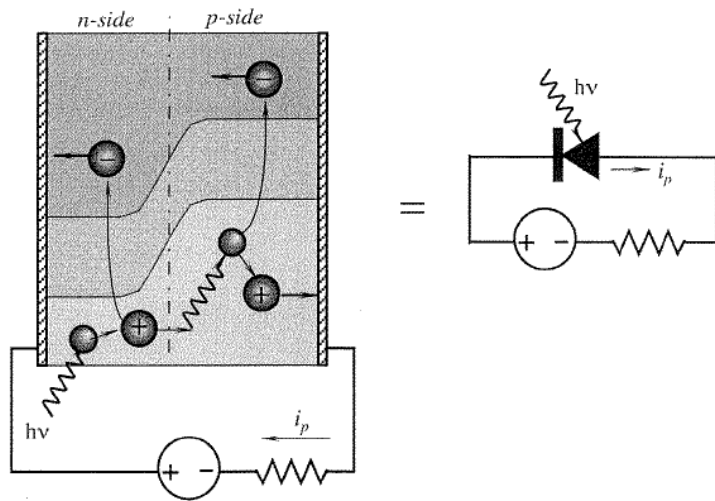


Fig. 14.3. Structure of a photodiode.

En passiv sensor henter energien fra det den måler

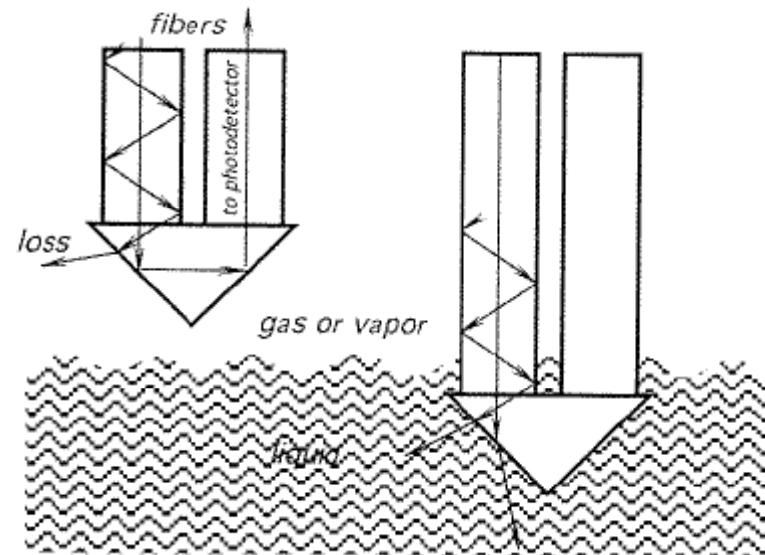


Fig. 7.28. utilizing a dex.

En aktiv sensor tilfører energien den trenger for å gjøre målingen