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Rivelatori al silicio ed elettronica di lettura  
ore: 20 (16+4) / (16+2?/4+2?)

#### Part I: Silicon sensors

1. Introduction: general considerations on radiation detection
2. Semiconductor basics
3. Silicon as material for radiation detectors
4. Microstrip detectors
5. Hybrid Pixel detectors
6. Silicon Drift Detectors
7. CCD detectors (p-n and MOS)
8. Silicon Photo-Multipliers (SiPMs)
9. Monolithic Active Pixel Sensors (MAPS)

#### Part II: Signal processing

1. Introduction to front-end electronics and pulse processing
2. Basic noise concepts
3. Processing the signals from a radiation detector
4. Identification of noise sources in detector, preamplifier and bias networks
5. Preamplifiers
6. General considerations about shaping
7. Example: front-end electronics for silicon detectors in Calorimetry

materiale: slides dei docenti