



Chula
Chulalongkorn University

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- Assistant Professor of Nuclear Engineering, Department of Nuclear Engineering, Faculty of Engineering, Chulalongkorn University.
- Lecture subjects: radiation protection, radiation dosimetry, radioisotope production and materials analysis by nuclear techniques.
- One of committees of Nuclear Society of Thailand and The Science Society of Thailand to promote the Nuclear Knowledge to the publics.
- Research interests:
 - applications of radioisotopes and neutron,
 - radioisotope production,
 - modified materials by irradiation
 - development of radiation detectors, especially scintillation crystals and optoelectronics devices.



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• My ongoing research projects

❖ CsSrI_3 vs CsCaI_3 Crystals



CsSrI_3 : yellow light

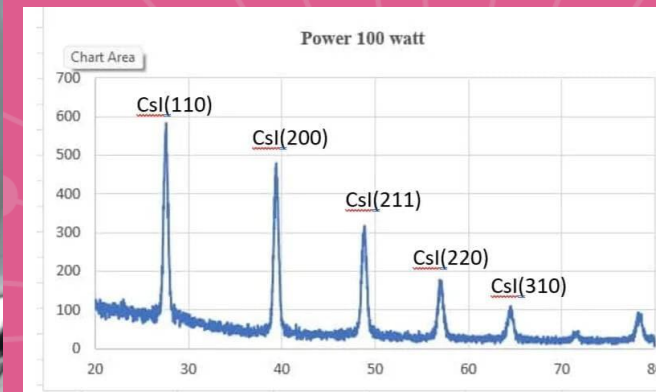
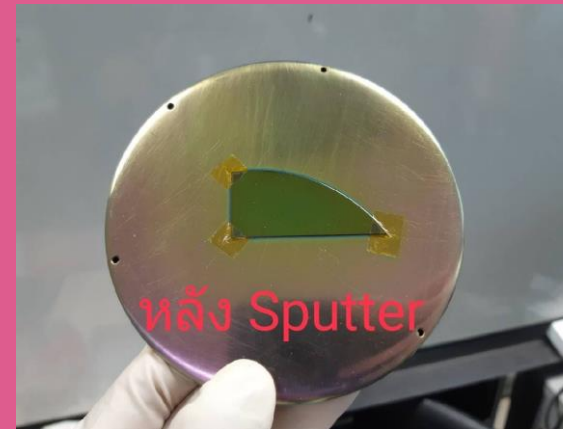
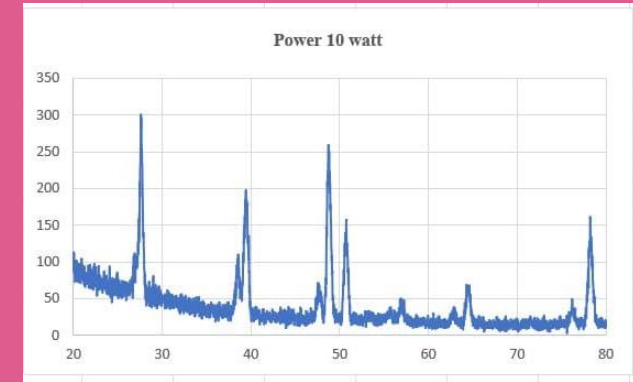
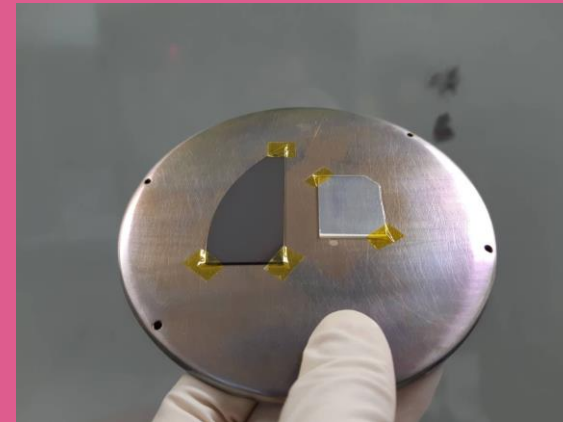


CsCaI_3 : blue light

Crystals	Composition ratios of CsI:SrI ₂	Gamma-ray Source	Absolute Efficiency (E _{abs.} , %)	Intrinsic Efficiency (E _{int.} , %)	Energy resolution (%)
$\text{CsSrI}_3(\text{TI})$	99:1	Co-57	78.92	78.92	76.72
	97:3	Co-57	80.54	80.54	70.62
	95:5	Co-57	61.19	61.19	47.62
$\text{CsSrI}_3(\text{TI})$	99:1	Cs-137	0.649	22.78	-
	97:3	Cs-137	0.622	26.10	21.15
	95:5	Cs-137	1.468	14.50	-

CsCaI_3 :CsI=80%, CaI_2 =20% (H=0.5 cm)	0.4 %	57.2 %	79.0 %
CsCaI_3 :CsI=97%, CaI_2 =3%	0.01 %	4.64 %	40.3 %
CsI(TI)	0.3 %	46.2 %	40.2 %

❖ Growth of CsI thin films by Sputtering



❖ **Characterization of N-type and P-type Aluminum Antimonides on Si-substrates for room-temperature optoelectronic devices**



❖ **Optical properties of CsI:Tl crystals grown using different precursors purities**

❖ **Impact of precursor purity on optical properties and radiation detection of CsI:Tl scintillators**



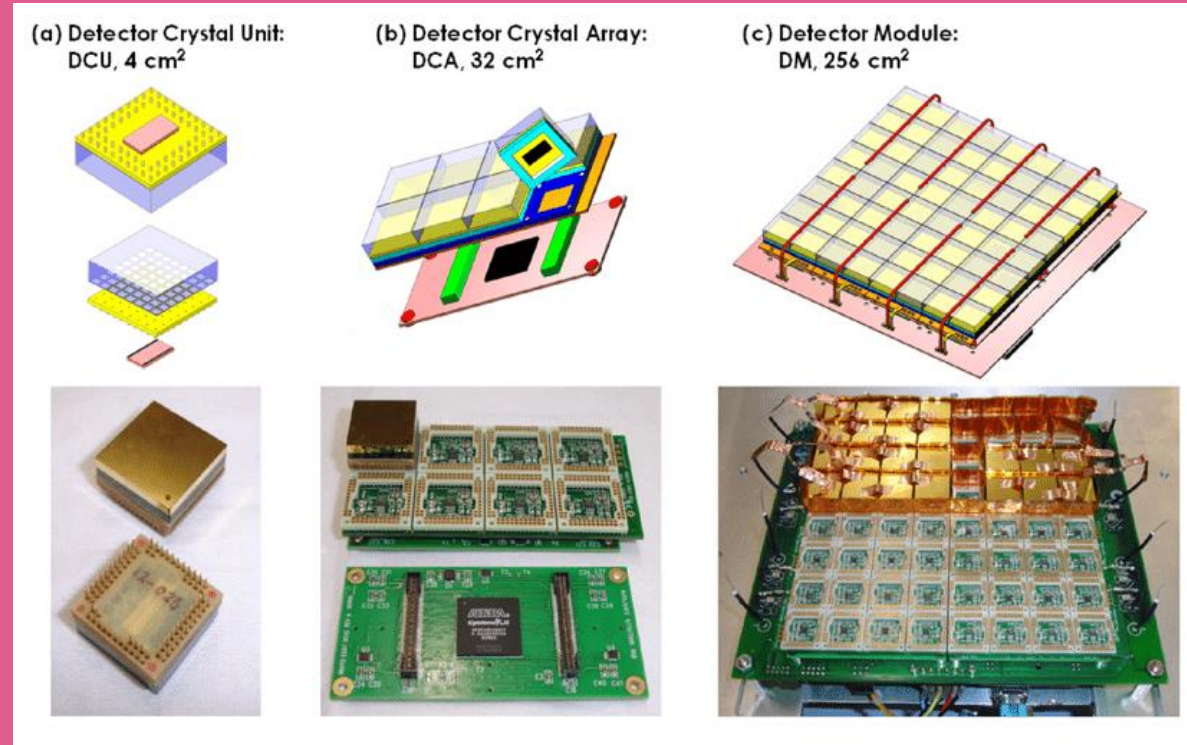
❖ **Growth and characterization of calcium-doped cesium iodide (CsI:Ca) optical crystals for radiation detection**

❖ **Determination of the ash content of coal samples by nuclear techniques with bismuth germanate detectors**





❖ Ongoing Topics & Outlook



- ❖ Investigate the new suitable dopants to explore the desirable emission wavelength for high performance of radiation detection.
- ❖ Develop the x-ray/gamma-ray radiation detector and dosimeters and 2D detector