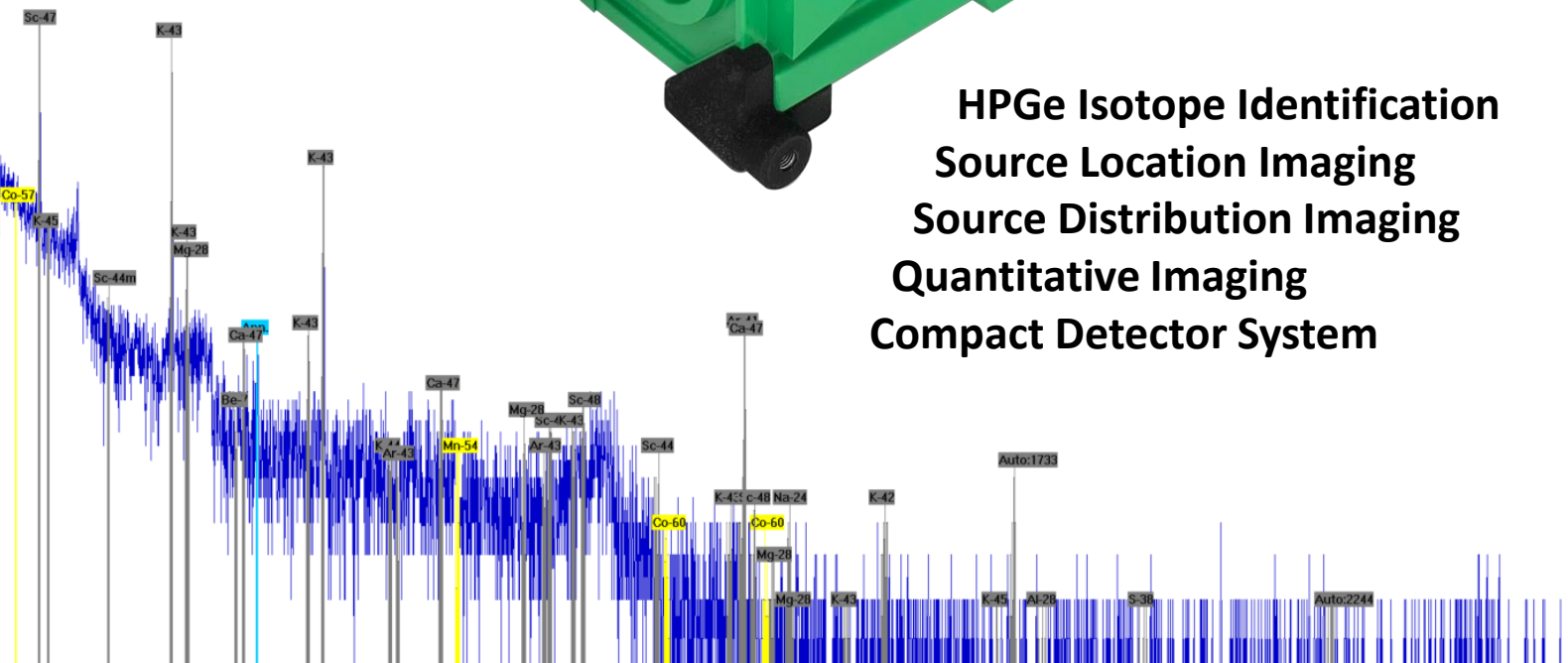
# NP Imager

Nuclear Physics – Radiochemistry Imaging Spectrometer

PHDS
Gamma Ray Imaging Detectors


**HPGe Isotope Identification**
**Source Location Imaging**
**Source Distribution Imaging**
**Quantitative Imaging**
**Compact Detector System**

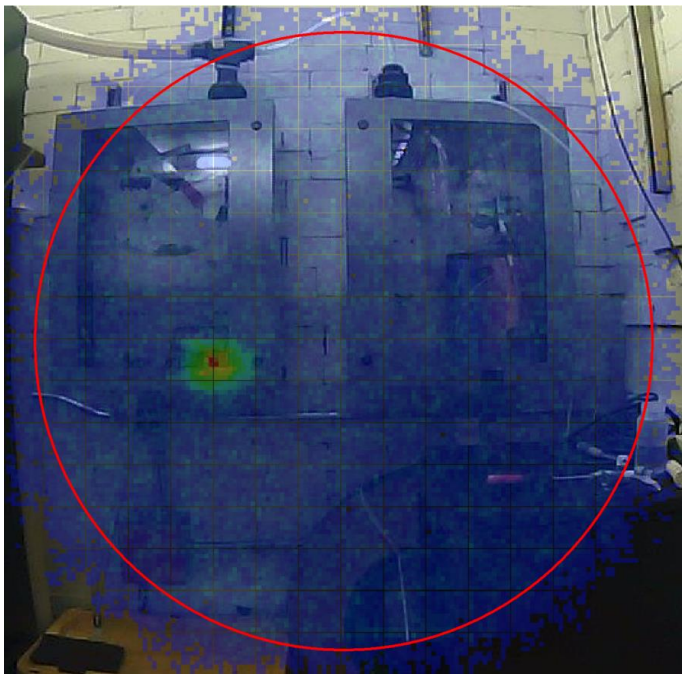
# NP Imager

PHDS
Gamma Ray Imaging Detectors

| NP Imager Specifications: | |
|---|---|
| Weight (Detector): | 15 lbs. (6.8 kg) |
| Dimensions (Detector): | 10.5" x 8.0" x 5.5" (26 cm x 20 cm x 14 cm) |
| Battery life: | 3 hrs internal (hot swappable), 6-8 hrs external |
| Power supply: | 100-240 VAC, 50-60 Hz |
| User maintenance: | None |
| Energy resolution: | FWHM < 2.1 keV at 662 keV |
| Gamma-ray Compton imaging field of view: | 4π (360°) |
| Optical camera field of view: | 2π (180°) |
| Pinhole imaging field of view: | up to 60° (depends on Zoomfactor) |
| Zoomfactor Gamma-ray Image Magnification | x1 - x6 |
| Imaging Range: | (10 cm - 50$^{+}$ meters) |
| At 10 µCi $^{137}$Cs at 1 meter (3.3 µR/hr, 33 nSv/hr) | |
| ID time (spectroscopy): | 3.7 sec +/- 1 sec (662 keV, 8σ) |
| Location (imaging) time: | 30 sec +/- 13 sec (Compton image) |
| Exposure rate capacity: | 200 kcps (~10% Dead time in 15 mR/hr $^{60}$Co) |
| Energy range spectroscopy (16k ch): | 30 keV - 3 MeV (12 MeV option) |
| Energy range Compton Imaging: | 150 keV - 3 MeV |
| Energy range Pinhole Zoomfactor Imaging: | 30 keV - 662 keV |
| Isotope Library: | 400 isotopes (Auto detect or user selected) |
| Isotope Identification: | 37 frequently encountered isotopes |
| Isotope Categories: | SNM, NORM, IND, MED |
| HPGe detector crystal dimensions: | 90-mm diameter, 11-mm thick |
| Active detector volume / area: | 67 cm$^3$ / 61 cm$^2$ |
| Cool-down time: | 4 hours |
| Detector startup time: | 2 minutes |

Heavy Duty
Imaging Gantry

Tablet or Laptop
operation



Radioisotope Harvesting Image

Pinhole Imaging
Aperture

2590 300 W-hr
External battery

20210129
Specifications subject to change

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