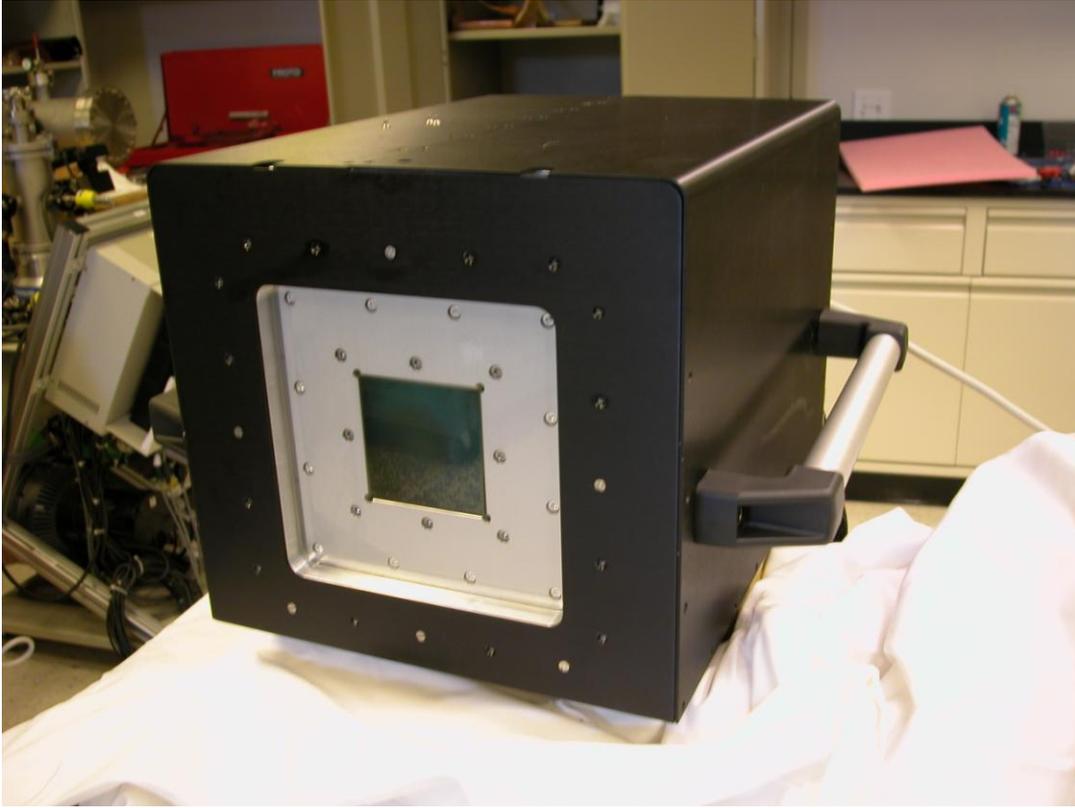


## Platinum Single CCD Detector Specs (aka “BESSRC Platinum”)

- Monolithic 2kX2k CCD coupled to phosphor by 1.78:1 fiber-optic taper
- Pixel size at CCD= 25um X 25um
- Active Imaging surface: 84mm X 84mm square.
- Pixel size at phosphor can be binned under software control to give:
  - 1x1 binned, 2048 x2048 pixels, 44um pixels
  - 2x2 binned, 1024x 1024 pixels, 88um pixels
  - 4x4 binned, 512 x512 pixels, 178um pixels
- 4 simultaneous on-chip readout channels
- PSF (point spread function) 100um FWHM
- LSF (line spread function) 150um, 10% to 90%
- Gain: electrons per X-ray photon, 25e-/8keV
- Read noise = 23e- at 2.5 MHz readout speed ~ one 1 8keV photon
- Frame Rates:
  - 1x1 binning: 1fps
  - 2x2 binning: 3fps
  - 4x4 binning: 5 fps
- Dark Current:
  - .67 counts/sec, 4x4 binned mode, -20C.
  - 0.16 counts/sec, 2x2 binned mode, -20C.
  - 0.04 counts/sec, 1x1 binned mode, -20C.
- Full Well Capacity: 500ke- or 20k 8keV electrons, if complete xray falls on one pixel. Depend on bin rate.
- Dynamic Range, 16 bit converter, 22k = full well/ read noise.
- Phosphor: Gd2O2S2:Tb, 10mg/cm2.
- Grade B Kodak CCD- KAF 4320. Defects are calibrated.
- Physical
  - Detector Head
    - Dimsnsions 16in x 16in x 24 in.
    - Weight- about 50lbs



Platinum Single CCD system. X-ray window removed to reveal imaging area.