Dragon Group Meeting 8 February 05

Present DO (rec.) JDA DH CR MT LB GS WRH CV MH JP CJ PM GR

Corrections to 1 Feb minutes.

The new Sundial replacement is ISACepics1.
ED1 nominal Voltage is at 197KV

Business Arising—

ISDAC04 now has been linked to the new system However
It is not possible yet to access saved files. Jane Richards to establish links.

Hardware news

JC new chamber for 22 Na scans is progressing in design.
S bend hardware change to the dipole vacuum box is proceeding, with problems still being solved (vacuum controls etc).

Some discussion on which NaI 's will be used, as the 3x3 ones may have to be returned to SFU.

GEANT

Catalin was not at this meeting, but was reported to be getting correct distributions of positron/electrons. It was suggested that Lothar generate histos from experimental data that Catalin can compare GEANT distributions to.

There was discussion of GEANT histos being compared to NOVA analyzed data even though event generation may not be the same.

There will be at least 2 summer students coming one of whom could do this.

CR Elastic detector

Progress reported on an elastic detector to analyze beam coming out of RFQ using gold plated foils inside a Bill Rawnsley 8 inch box.

CR wants to use forward angles and (see attached elastic plots) and will present proposal at the ISAC facility meeting.

CR OLIS production of Aluminum beams

CR andKeerthi attempted to use Aluminum Cloride dried onto a moly foil 1 microgram thick

They saw Ca CaH Rubidium and a small amount of Al Cl. Results are are attached. A thermocouple was used and part of the ion source cooled to optimal temperature.

Next step is to use aluminum nitrate at a different temperature.

CV 26 Al from Oak Ridge

A proposal was presented to use 26 Al obtained from Oak Ridge. If .3microC was used and the ion source is 1 percent efficient then we might expect 10E5 on target. Could be competitive ? with producing 26 Al online with ISAC.

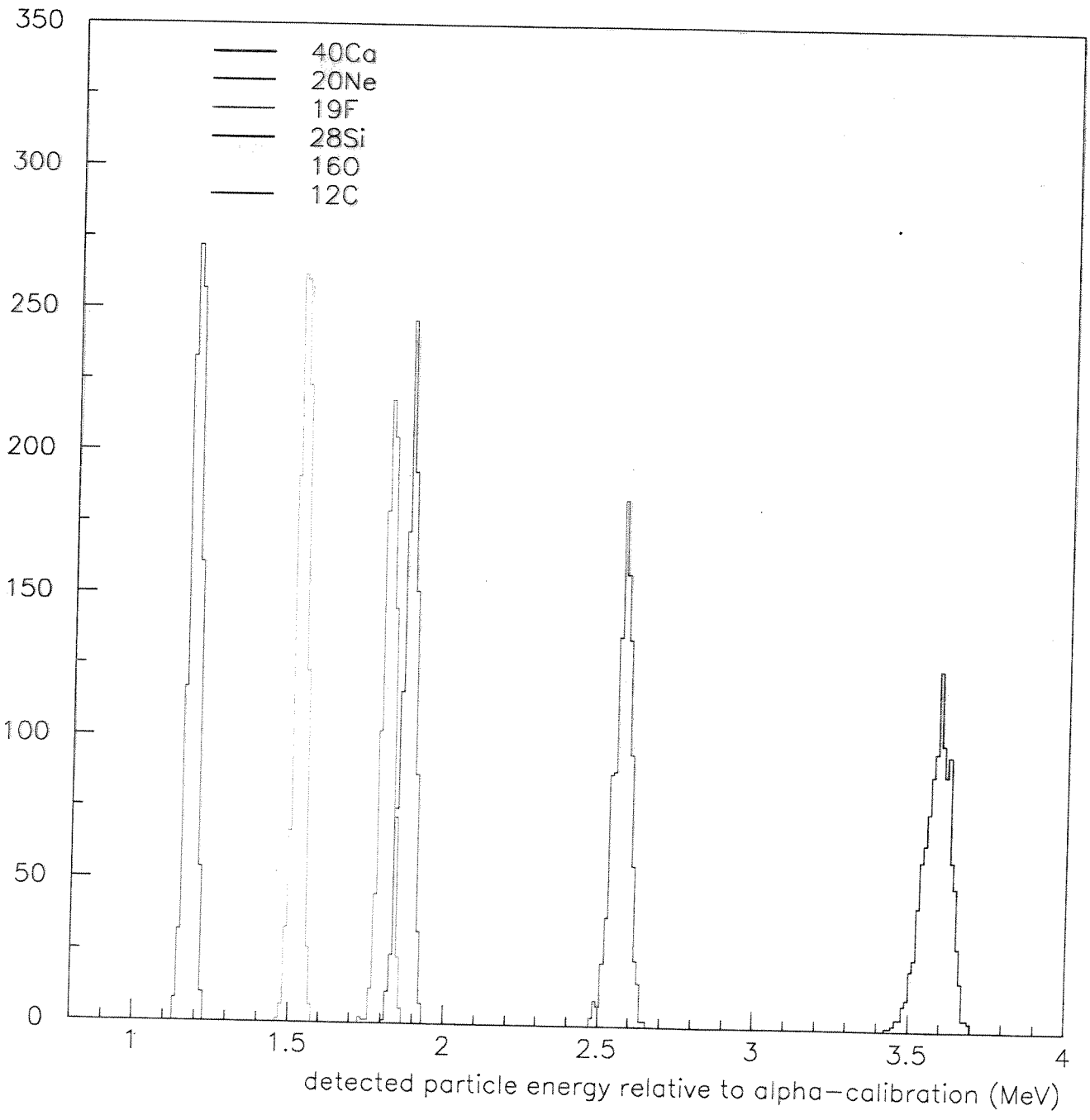
JC Implantation of 22 Na.

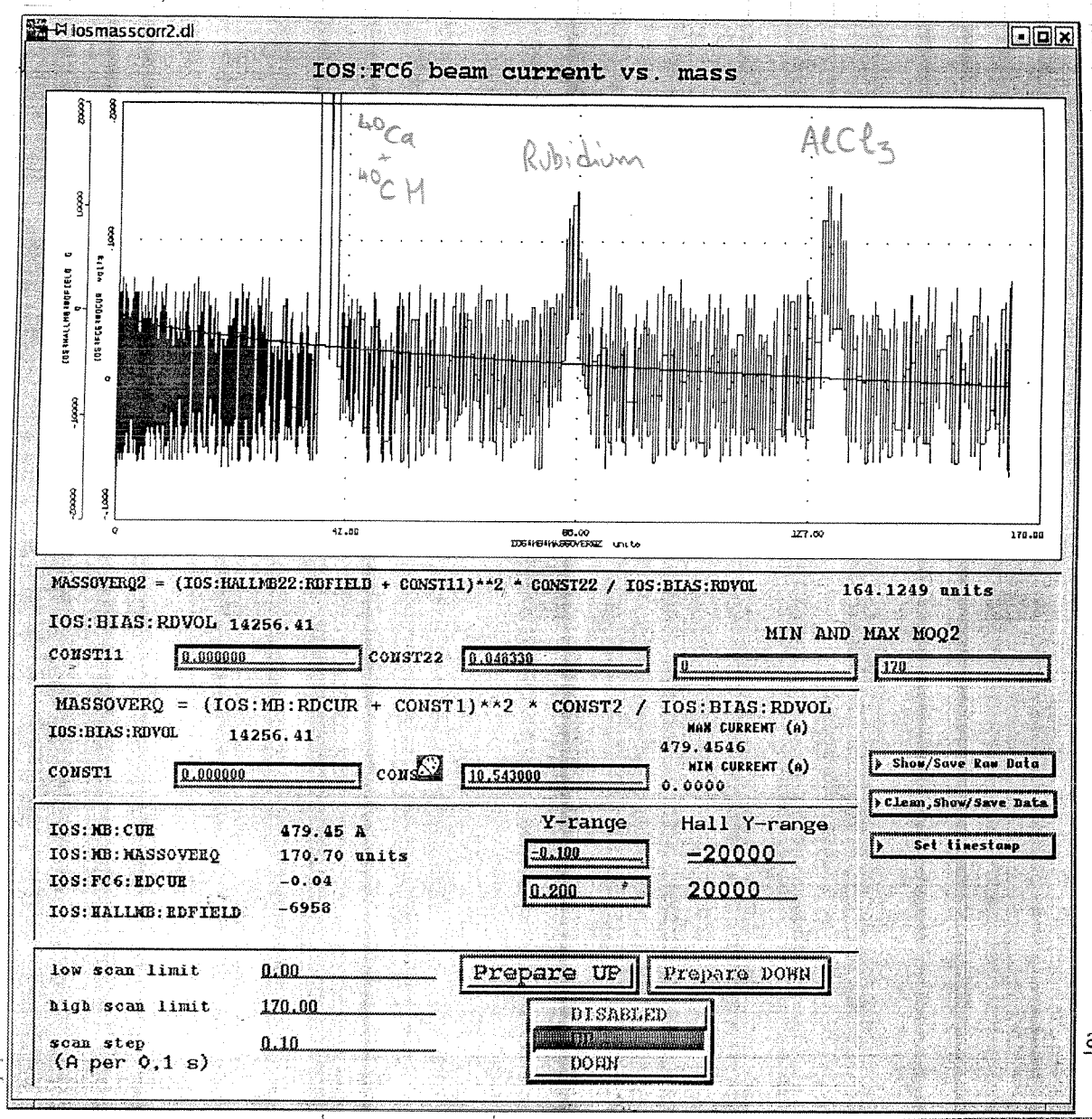
Proposal is to use the 8 pi port and Ni foils, 3 energies. A broad beam will be used With a 5 mm collimator. With the actual experiment we might use a raster deposit.

23 Na (p, gamma) will be used to profile the target using 2 strong resonances. Potential to run the deposition this next week. Transport and storage of target to be in a glass vacuum dessicator.

DH Brief presentation of 22 Na branching ratios

CJ Presentation of GEANT spectra of leading Gammas.


350
300
250
200
150
100
50
0
40Ca
20Ne
19F
28Si
16O
12C
1
1.5
2
2.5
3
3.5
4
detected particle energy relative to alpha-calibration (MeV)



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Witnessed & Ur

Date

Recorded by:

^{22}Na Implantation test w/ ^{23}Na

Implantation:

- Ni Foils
- Cu plates

> mounted on DRAGON Tgt frames

- Location = STT
  - making adapter/faraday plate
  - mount frames
  - Cu plates
  - modified STT cup arrangement for easy on/off target changing

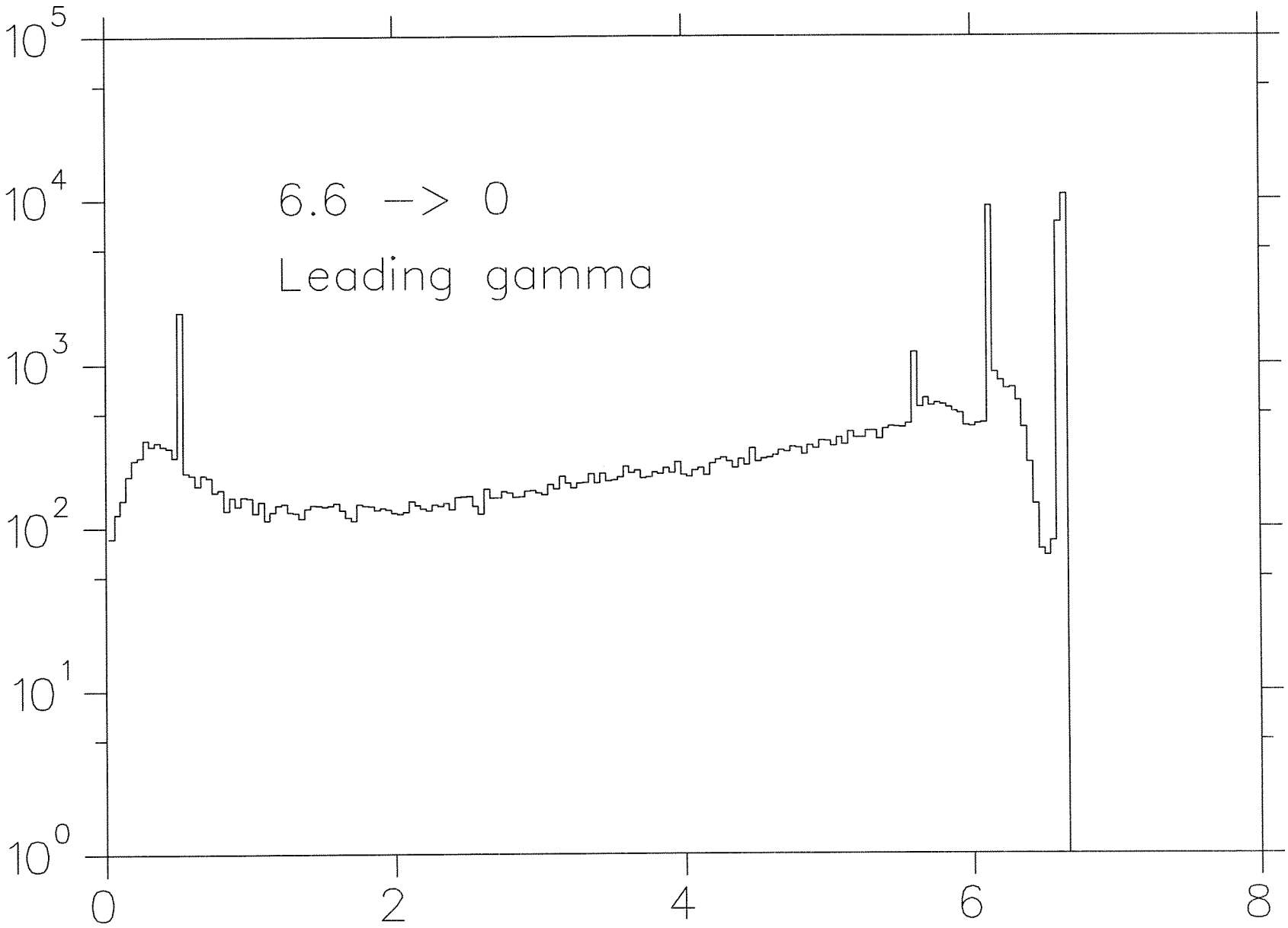
- Old papers indicate 30 keV implantation energy gives ~10 keV tgt thickness @ 200 keV.

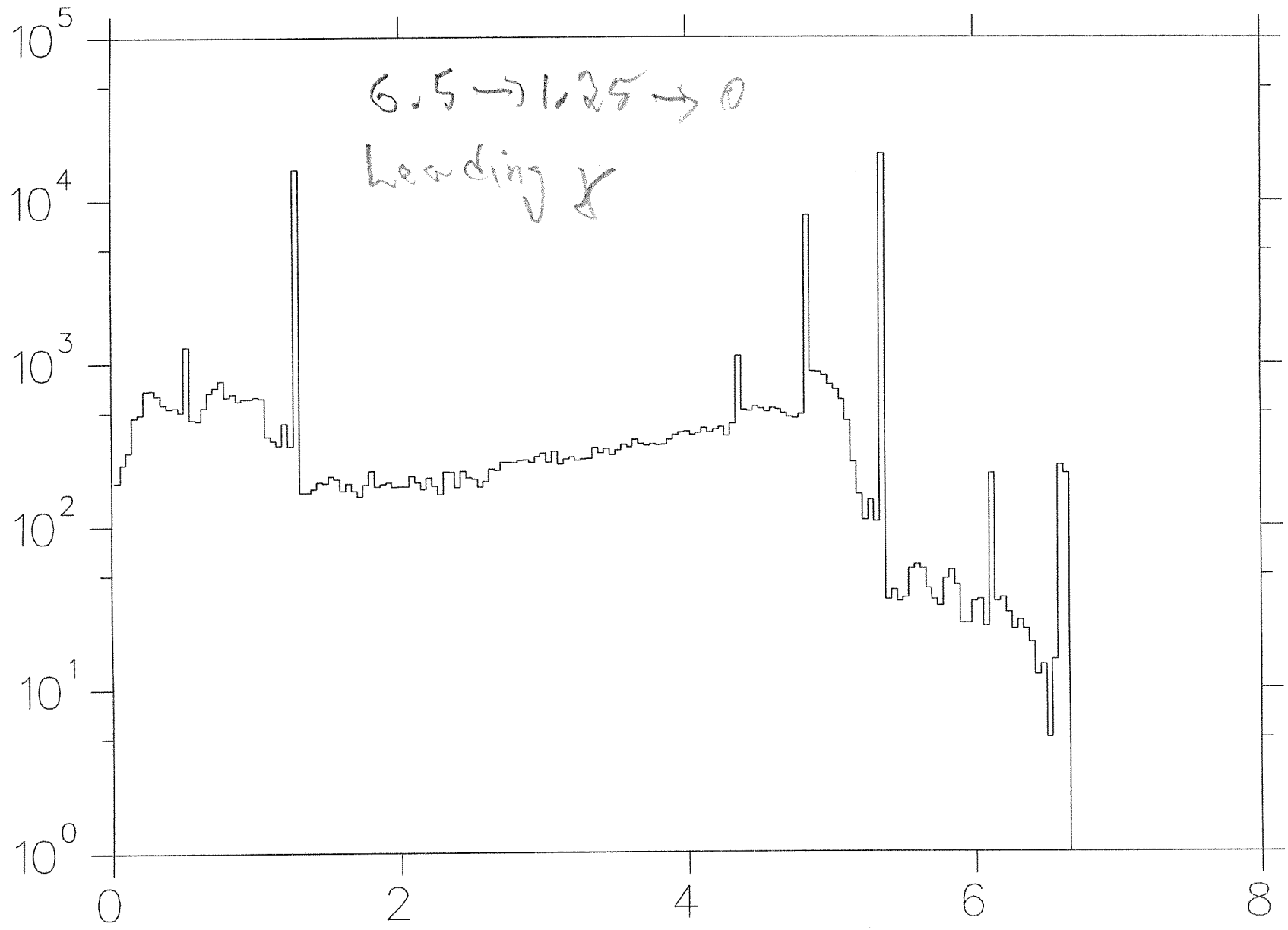
Nevertheless, try 3 Energies, 3 doses.
Implantation rate ≅ 200 pnA-hrs/mCi-equivalent

With 50 pnA:

Ni, Cu foils	E (^{22}Na equiv)	200	500	1000
	30	0.8	2	4 hrs
	40	"	"	"
	50	"	"	"
		~3	6	12 ~ 21 hrs

2 hrs/target change, 4 hrs/energy change
⇒ 51 hrs / set (2 sets: Ni, Cu)


6.6 -> 0
Leading gamma
10^5
10^4
10^3
10^2
10^1
10^0
0
2
4
6
8


6.5 → 1.25 → 0
Leading γ
10^5
10^4
10^3
10^2
10^1
10^0
0
2
4
6
8