4_IMS_Plots.doc

Note if you have downloaded and are viewing the *.doc file with e.g. MS Office, then you can manipulate the plots as follows:-

double click of a plot you want to inspect/change
double click on the y-axis, this will pull up the "Format Axis" Excel Menu.
Make changes (e.g. in scale sub menu, change from Logarithmic to Linear Scale etc)
Hit OK when done.

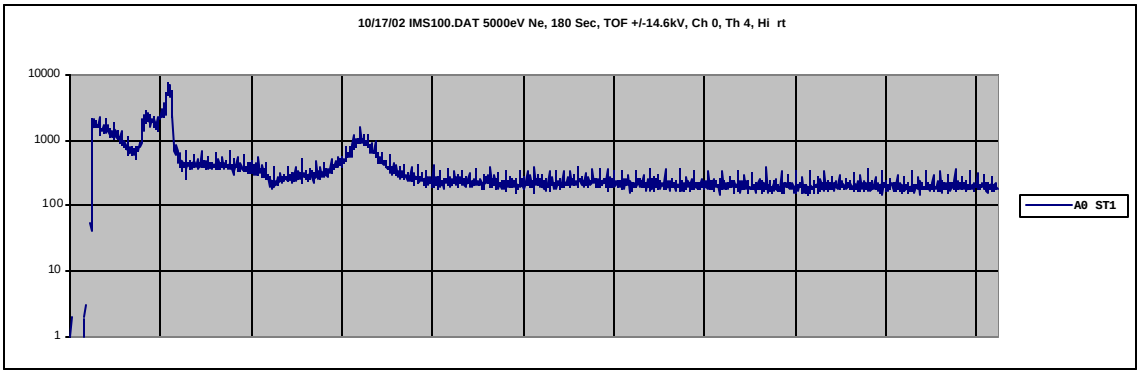
Each page here has 4 TOF plots, ST Singles, ST Doubles, LEF Singles and LEF Doubles

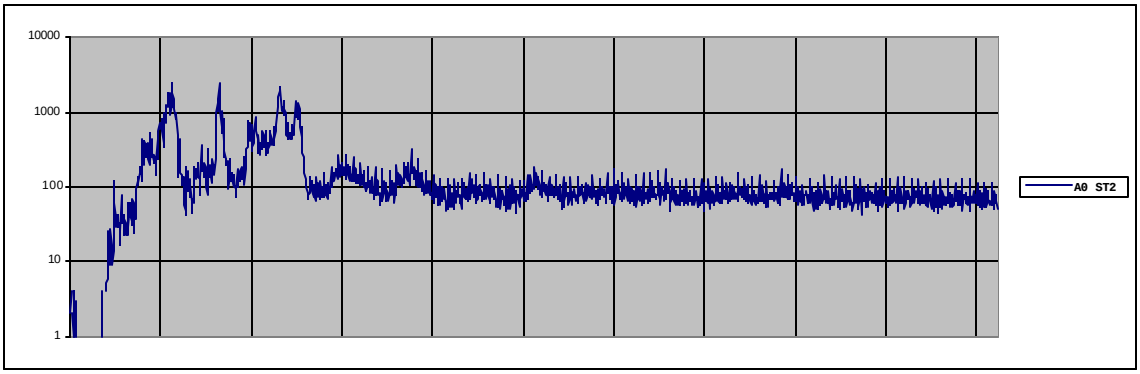
File	(eV)	Species	TOF	Thr	Anode	T. Sec	Starts/ Sec	ST Stops	Singles / Sec	Peak / Sec	% eff.
IMS100.DAT	5000	20Ne+	14.56kV	4,4	0	180					
IMS101.DAT	5000	20Ne+	14.56kV	4,4	0	180					
IMS102.DAT	5000	20Ne+	14.56kV	15,15	0	180					
IMS104.DAT	5000	20Ne+	14.56kV	4,4	0		873	3754	106	54	
IMS105.DAT	5000	20Ne+	14.56kV	4,4	0						
IMS106.DAT	5000	20Ne+	14.56kV	4,4	0	300	1292	631	86	109	17
IMS107.DAT	5000	20Ne+	14.56kV	4,4	0	300	10622	8627	516	357	4.1
IMS108.DAT	5000	20Ne+	14.56kV	4,4	0	300	14549	34088	1128	285	0.8
IMS109.DAT	5000	20Ne+	14.56kV	4,4	0	300	14460	47235	1388	245	0.5
IMS110.DAT	5000	20Ne+	14.56kV	4,4	0	240	14083	71038	1708	162	0.23
IMS111.DAT	5000	20Ne+	14.56kV	4,4	0	300	14120	81778	1640	74	0.09
IMS112.DAT	5000	20Ne+	14.56kV	15,15	0	300	13960	71850	1950	150	0.21
SUMMARY Stacked Plot, ST TOF with increasing Beam Intensity IMS106-IMS108											

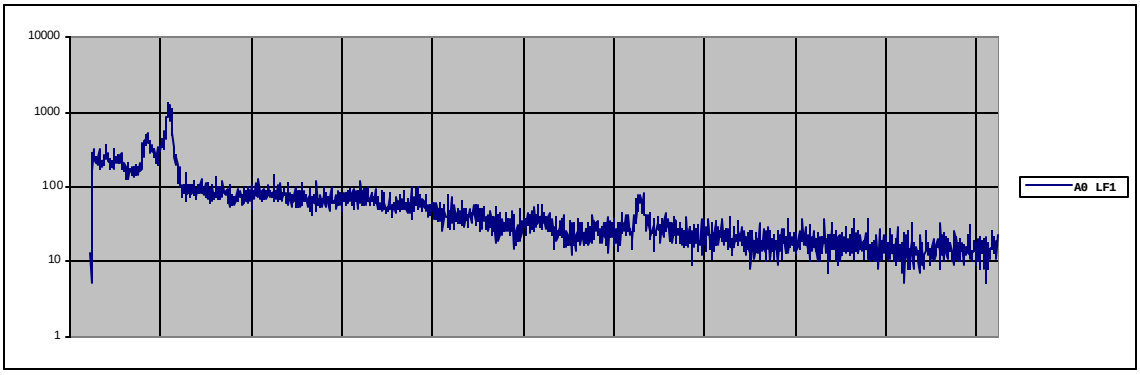
Note: % Efficiency column is simply # singles in peak after background subtraction / # Stops

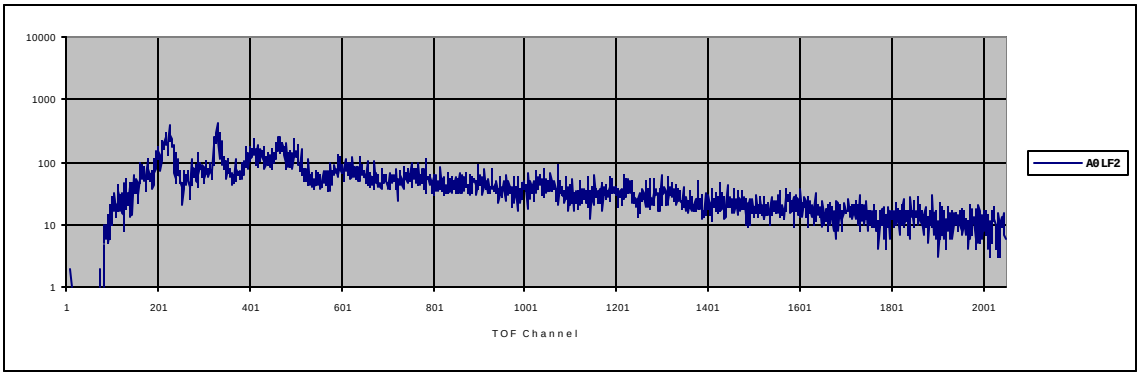
In a nutshell as before
When increasing the beam intensity,
Starts Max out at a rate of ~15000 Hz, probably due to MCP pore paralysis.
ST Stops are not affected as much (if at all), however this severely affects TOF efficiency.
There are 2 peaks, one on either side of Channel 200 in the LEF spectra, (and echoes in the ST TOF spectra), more evident at the higher rates,. Not sure what they are due to, possible that H+, H2+ being knocked out of the C foils with sufficient energy to reach top LEF MCP ? Suggestions welcome.

10/17/02, IMS100.DAT, 5000eV, Ne+ Beam, High Rate, TOF +/-14.56kV
Anode 0, MCP 2500, 1600, Thr = 4,4
Time = 180 Sec. Only Channel 0 Enabled.

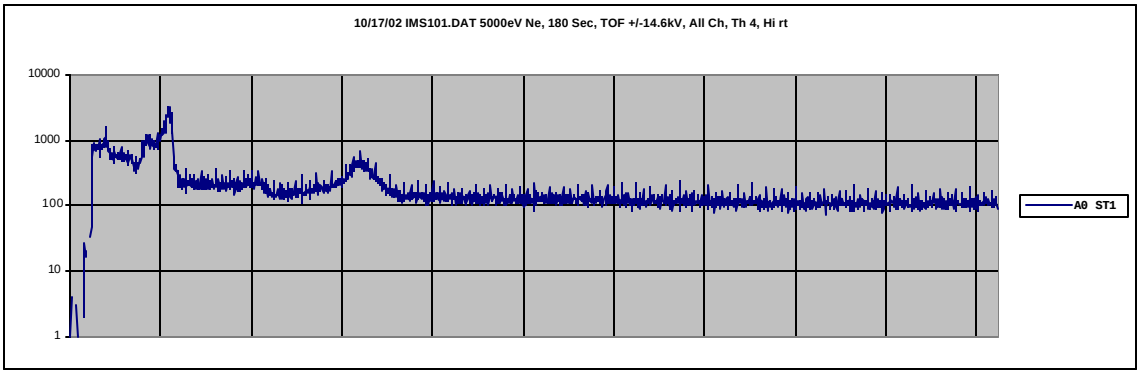


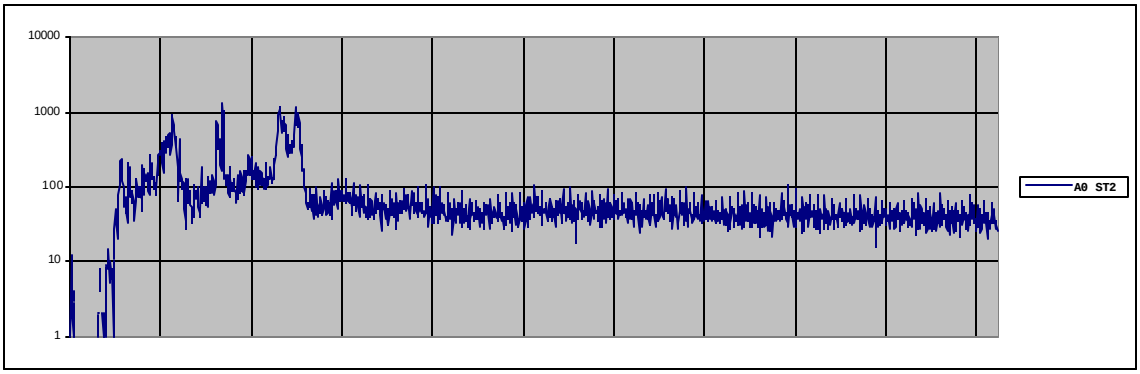


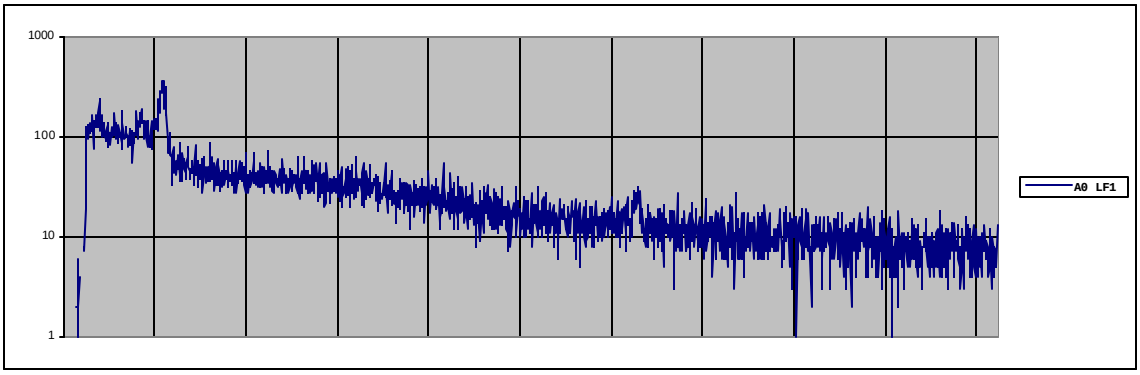


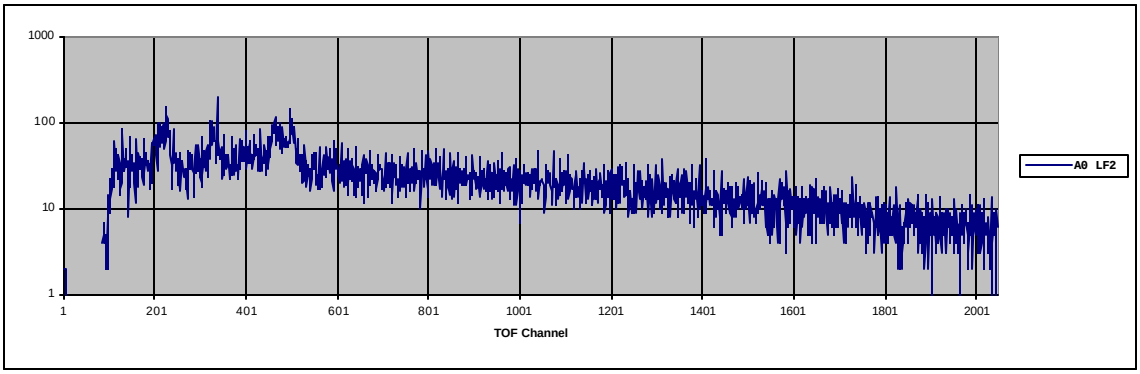


10/17/02, IMS101.DAT, 5000eV, Ne+ Beam, High Rate, TOF +/-14.56kV
Anode 0, MCP 2500, 1600, Thr = 4,4
Time = 180 Sec. All Channels Enabled.

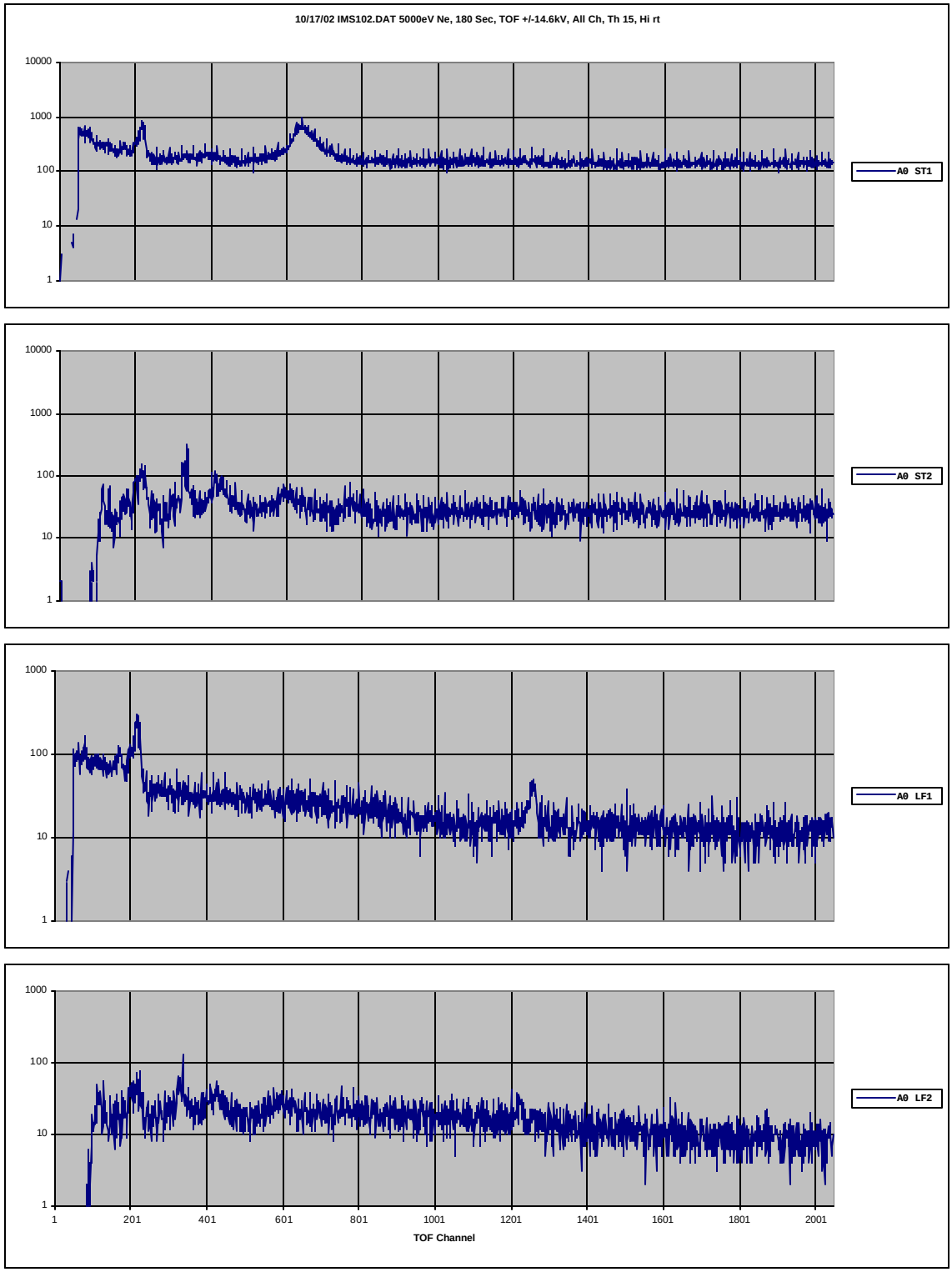




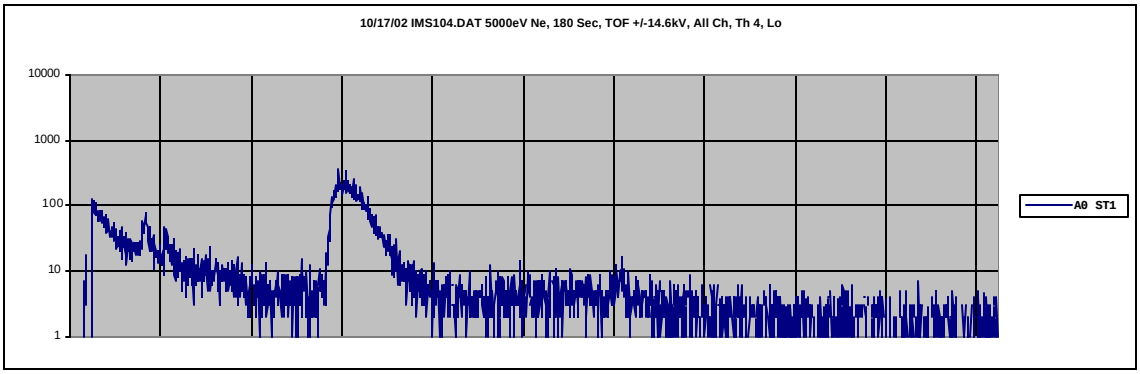


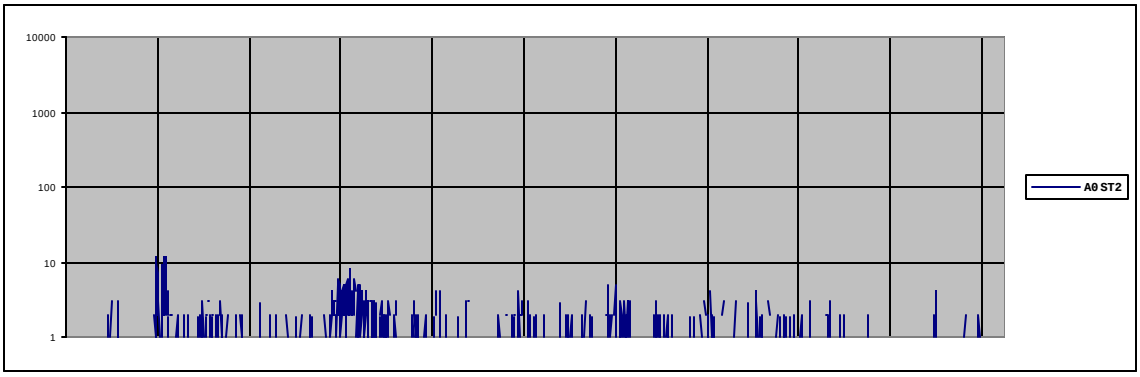


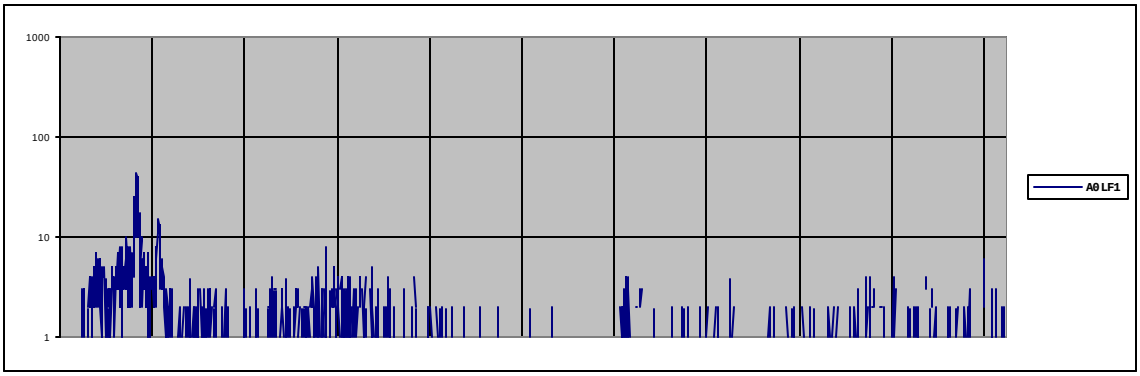
10/17/02, IMS102.DAT, 5000eV, Ne+ Beam, High Rate, TOF +/-14.56kV
Anode 0, MCP 2500, 1600, Thr = 15,15
Time = 180 Sec. All Channels Enabled.

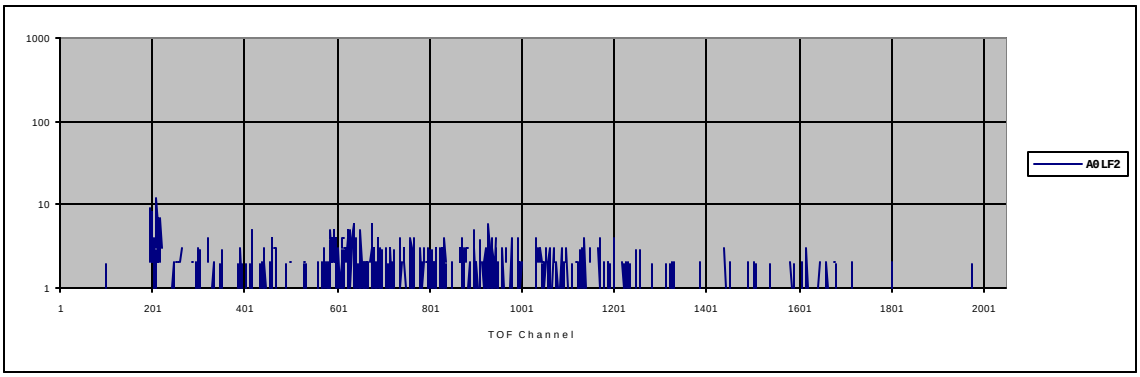


10/17/02, IMS104.DAT, 5000eV, Ne+ Beam, High Rate, TOF +/-14.56kV
Anode 0, MCP 2500, 1600, Thr = 4,4
Time = ? Sec. All Channels Enabled.

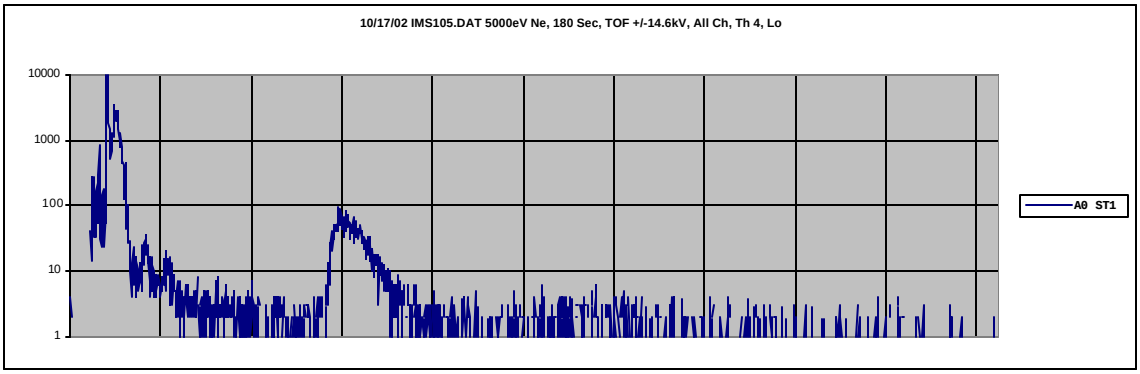


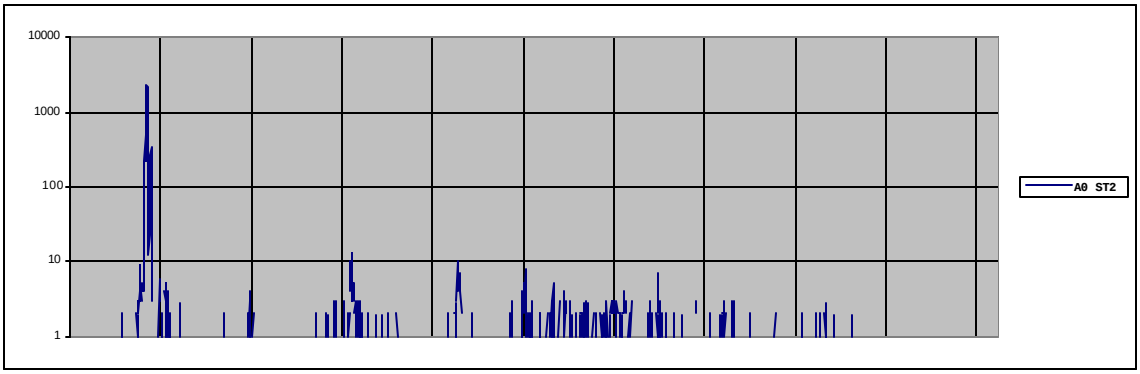


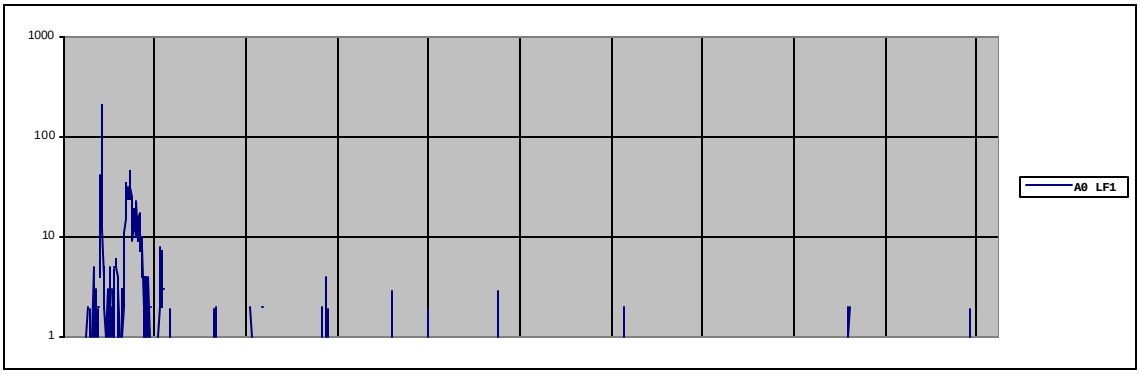


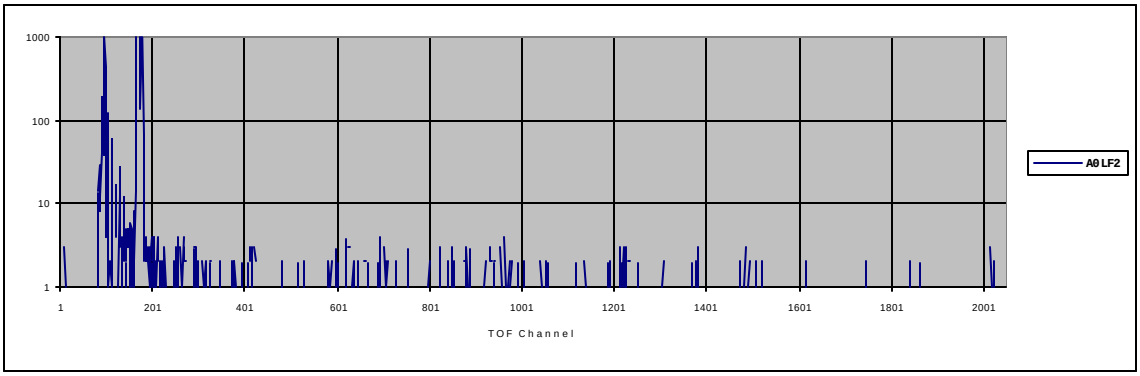


10/17/02, IMS105.DAT, 5000eV, Ne+ Beam, High Rate, TOF +/-14.56kV
Anode 0, MCP 2500, 1600, Thr = 4,4
Time = ? Sec. All Channels Enabled.

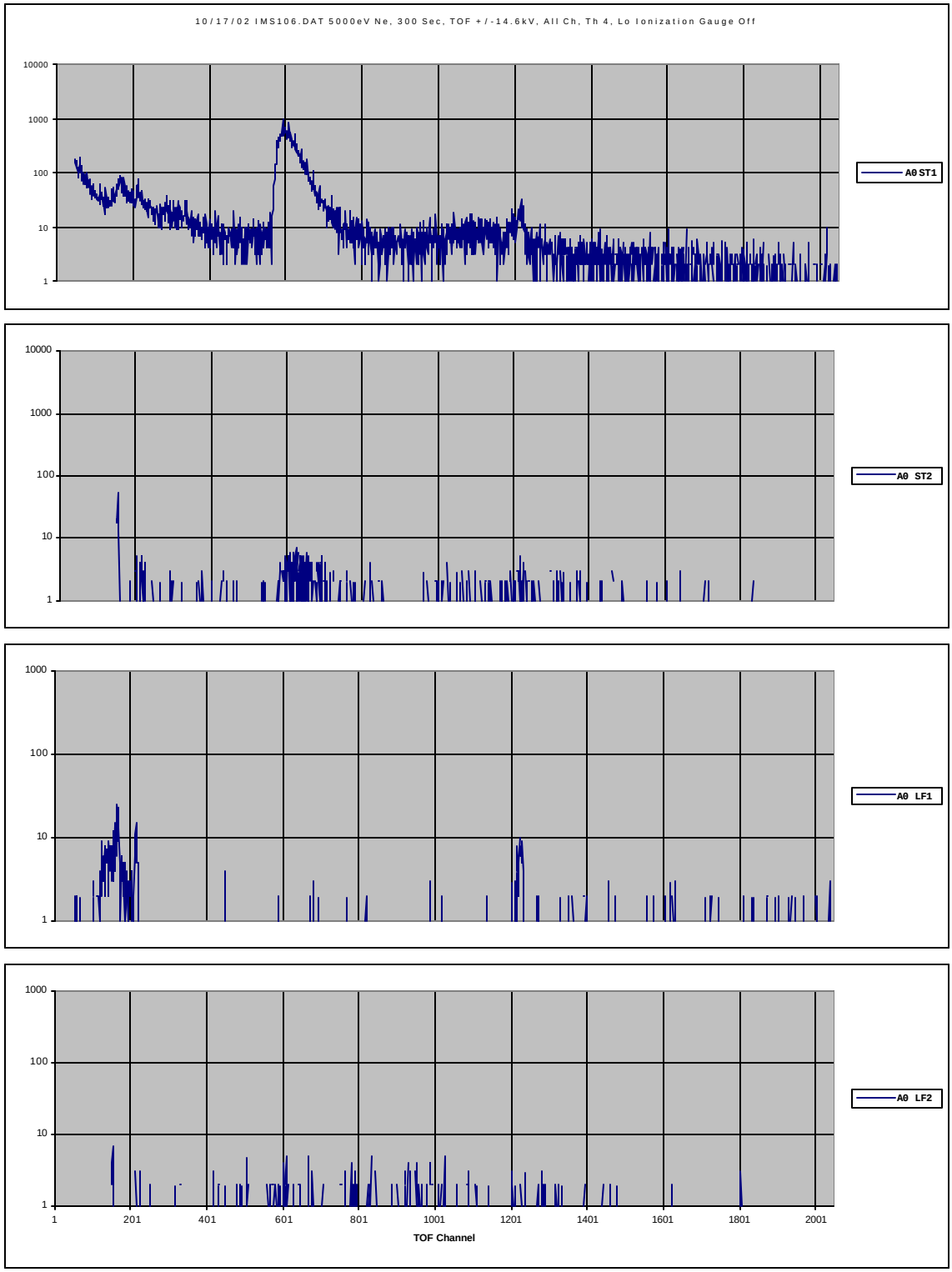




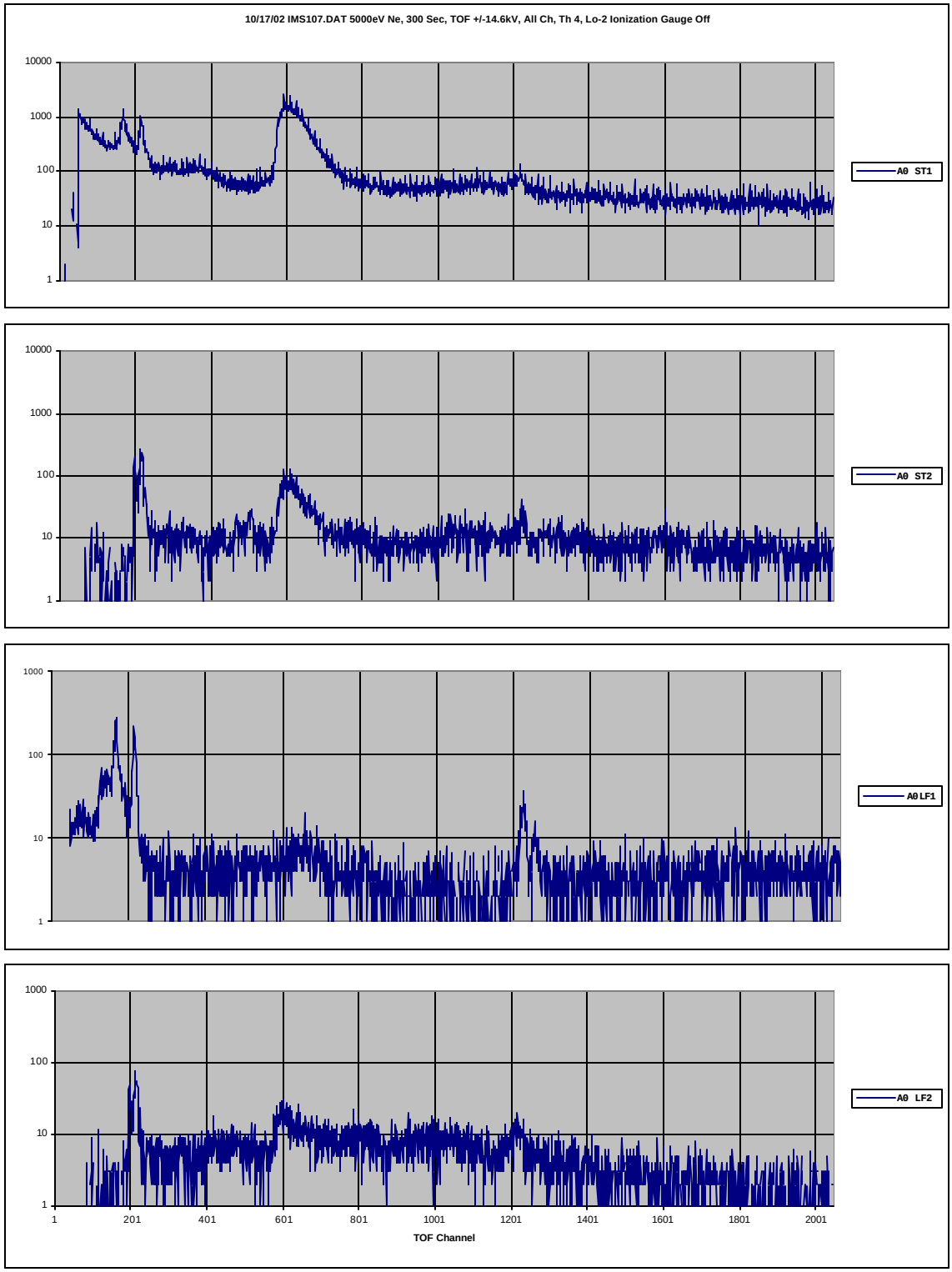




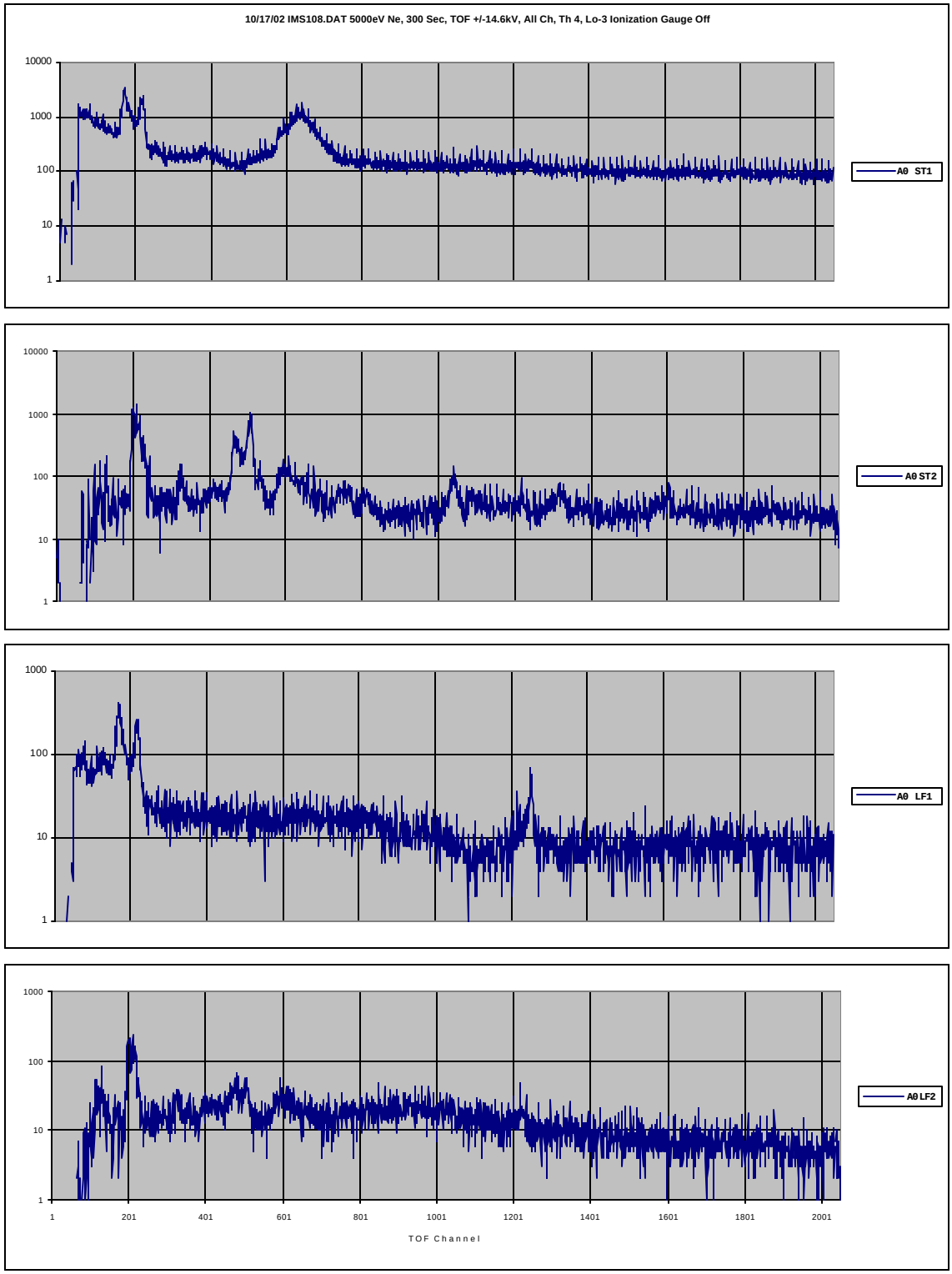
10/17/02, IMS106.DAT, 5000eV, Ne+ Beam, High Rate, TOF +/-14.56kV
Anode 0, MCP 2500, 1600, Thr = 4,4
Time = 300 Sec. All Channels Enabled, **Ionization Gauge OFF**



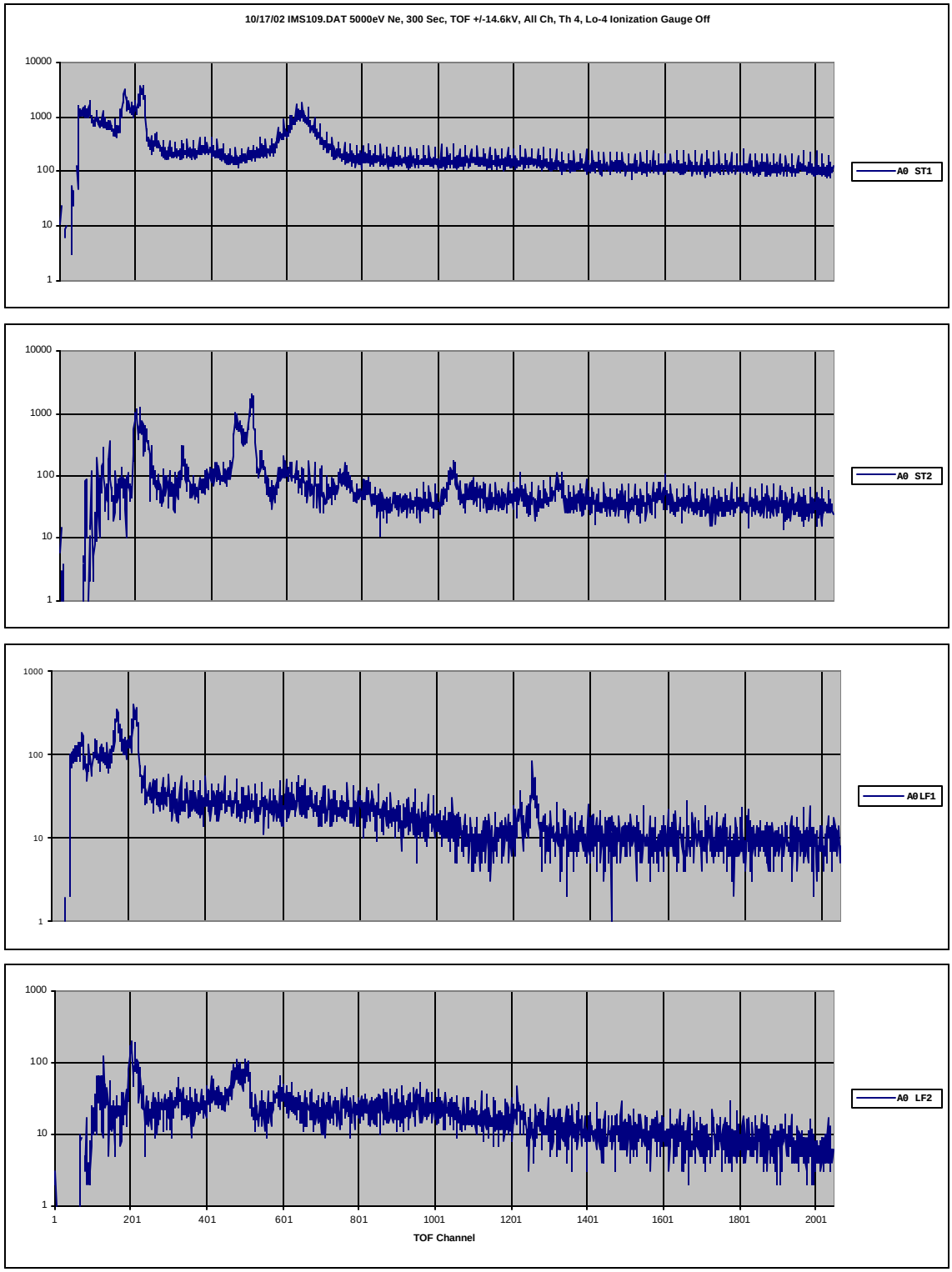
10/17/02, IMS107.DAT, 5000eV, Ne+ Beam, **Low Rate**, TOF +/-14.56kV
Anode 0, MCP 2500, 1600, Thr = 4,4
Time = 300 Sec. All Channels Enabled, Ionization Gauge OFF



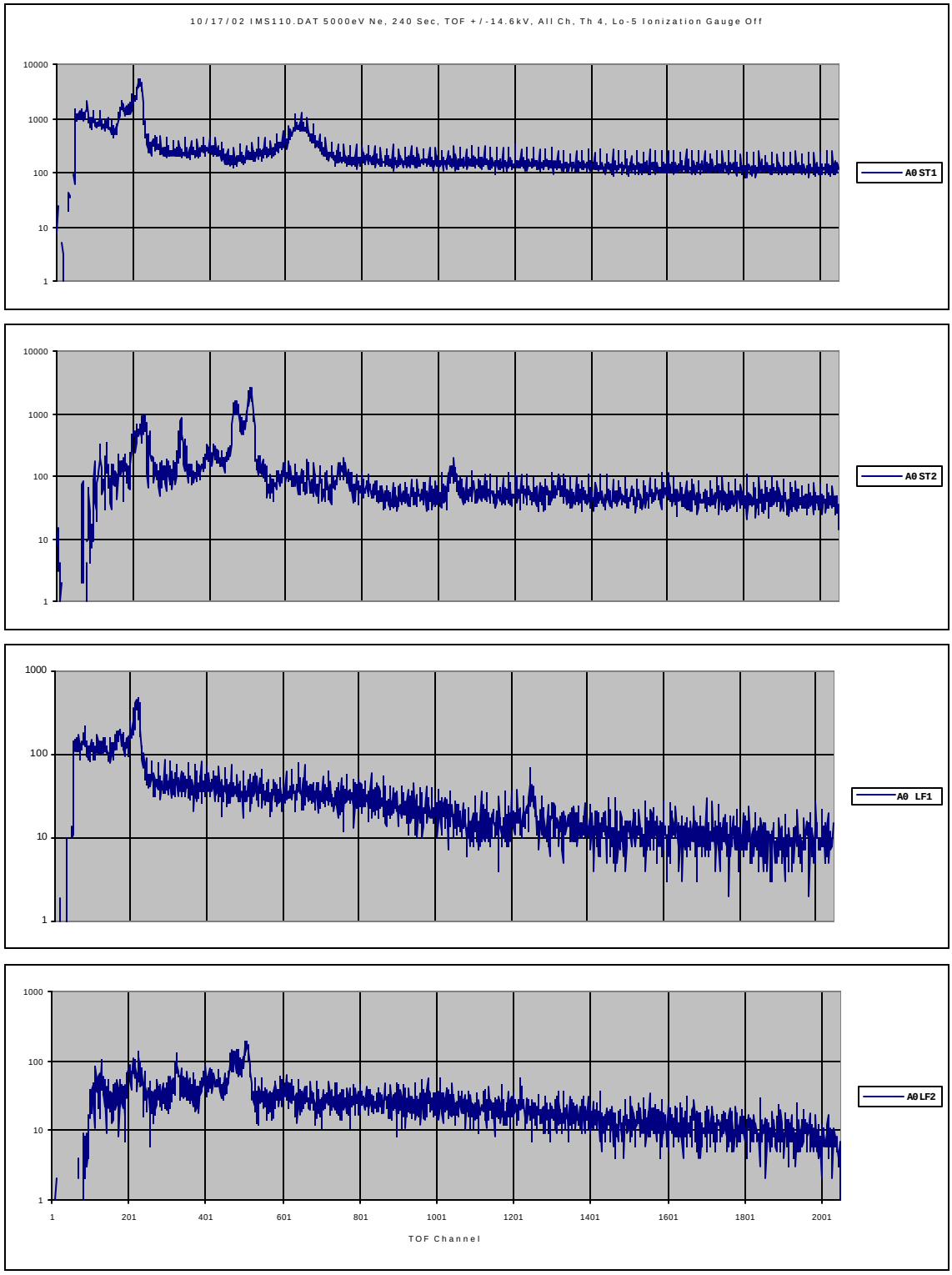
10/17/02, IMS108.DAT, 5000eV, Ne+ Beam, **Higher Rate**, TOF +/-14.56kV
Anode 0, MCP 2500, 1600, Thr = 4,4
Time = 300 Sec. All Channels Enabled, Ionization Gauge OFF



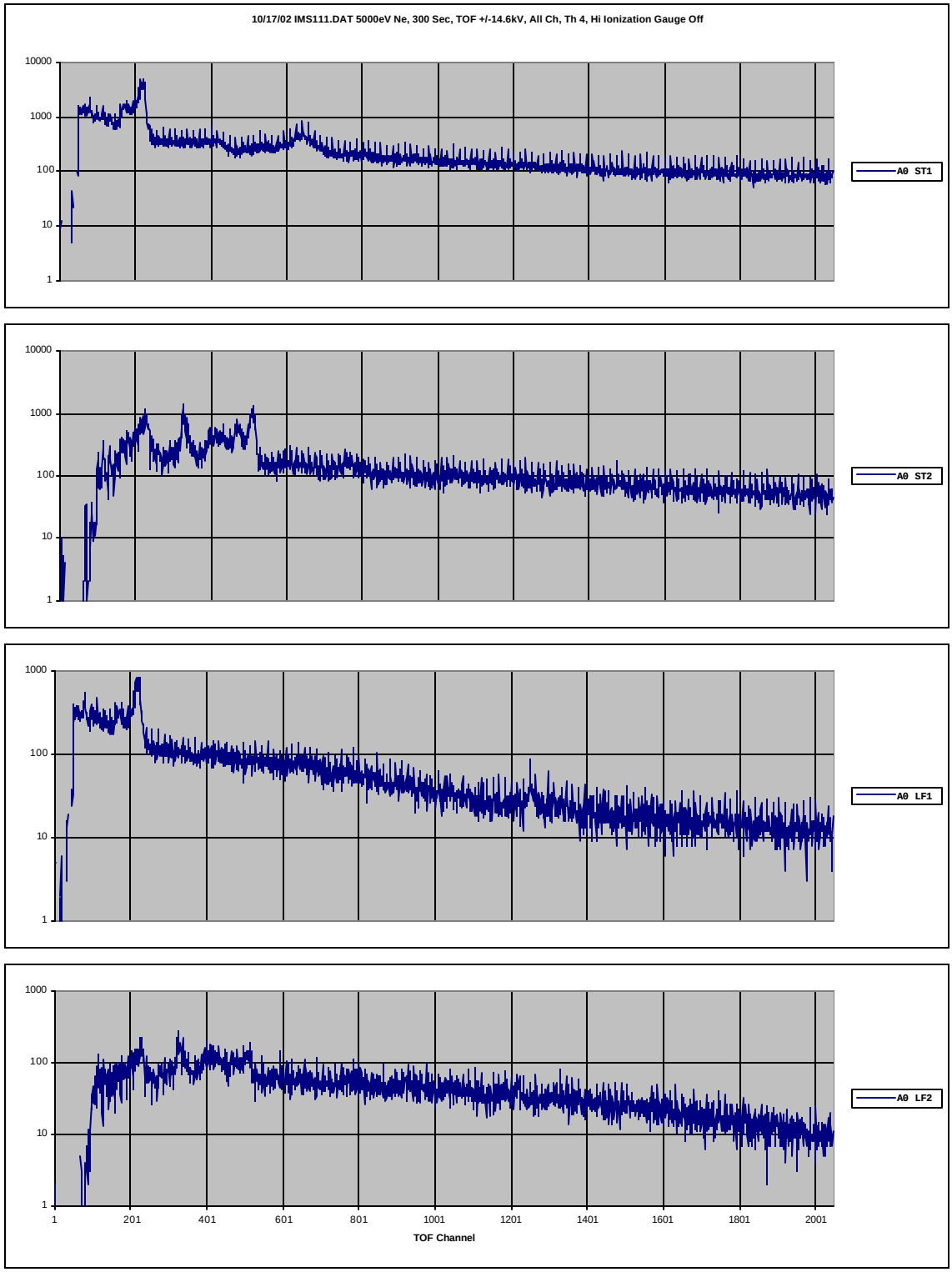
10/17/02, IMS109.DAT, 5000eV, Ne+ Beam, **Higher Rate**, TOF +/-14.56kV
Anode 0, MCP 2500, 1600, Thr = 4,4
Time = 300 Sec. All Channels Enabled, Ionization Gauge OFF



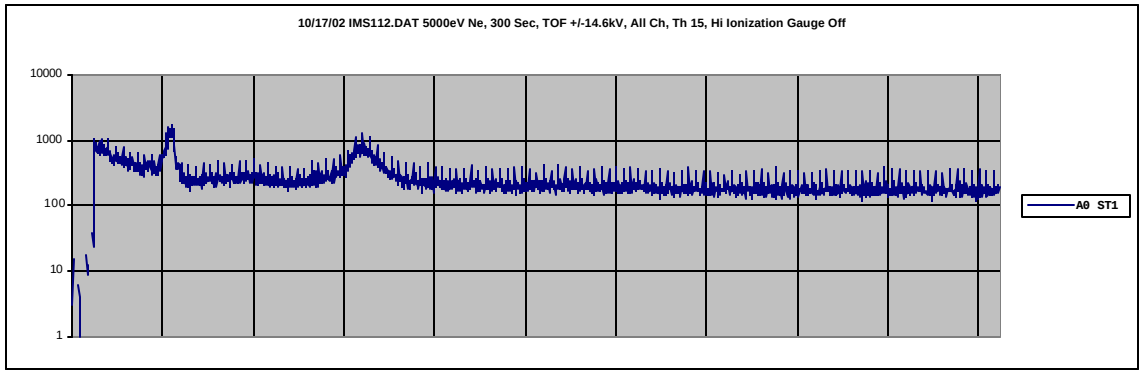
10/17/02, IMS110.DAT, 5000eV, Ne+ Beam, **Higher Rate**, TOF +/-14.56kV
Anode 0, MCP 2500, 1600, Thr = 4,4
Time = 240 Sec. All Channels Enabled, Ionization Gauge OFF

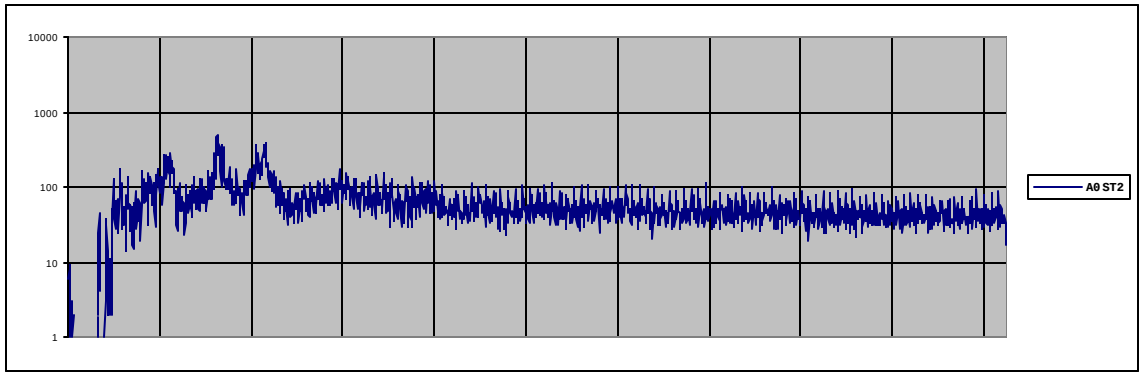


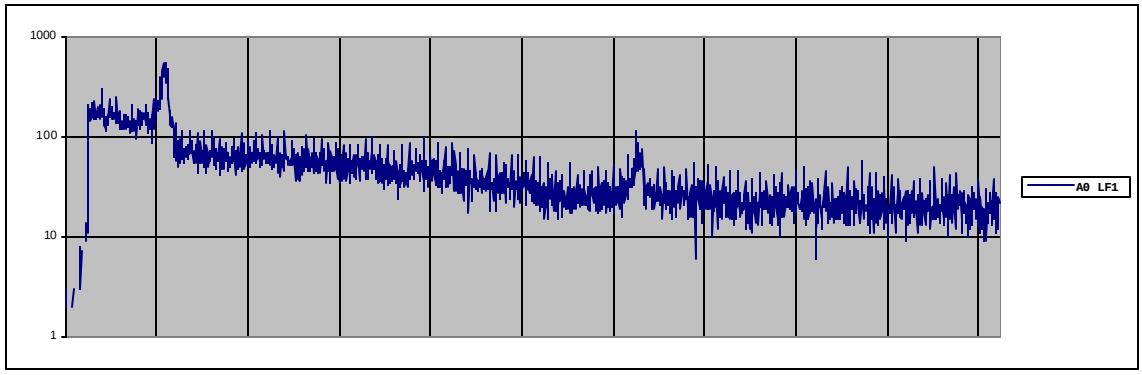
10/17/02, IMS111.DAT, 5000eV, Ne+ Beam, **Highest Rate**, TOF +/-14.56kV
Anode 0, MCP 2500, 1600, Thr = 4,4
Time = 300 Sec. All Channels Enabled, Ionization Gauge OFF

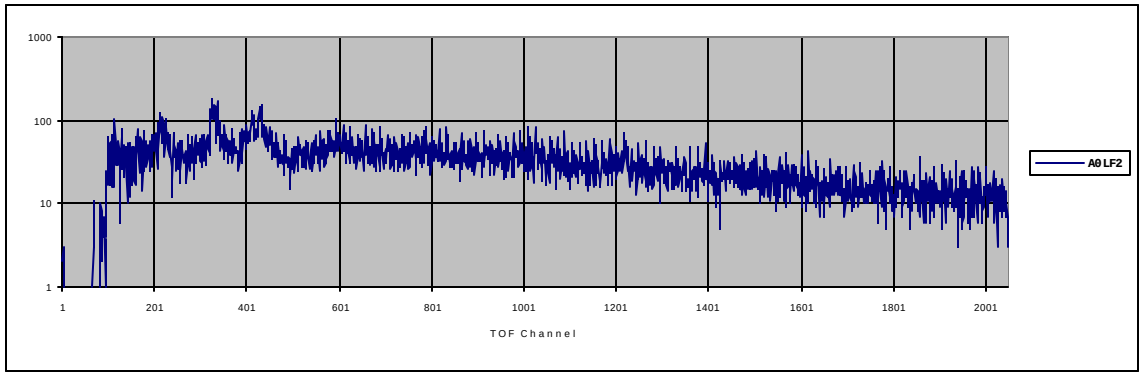
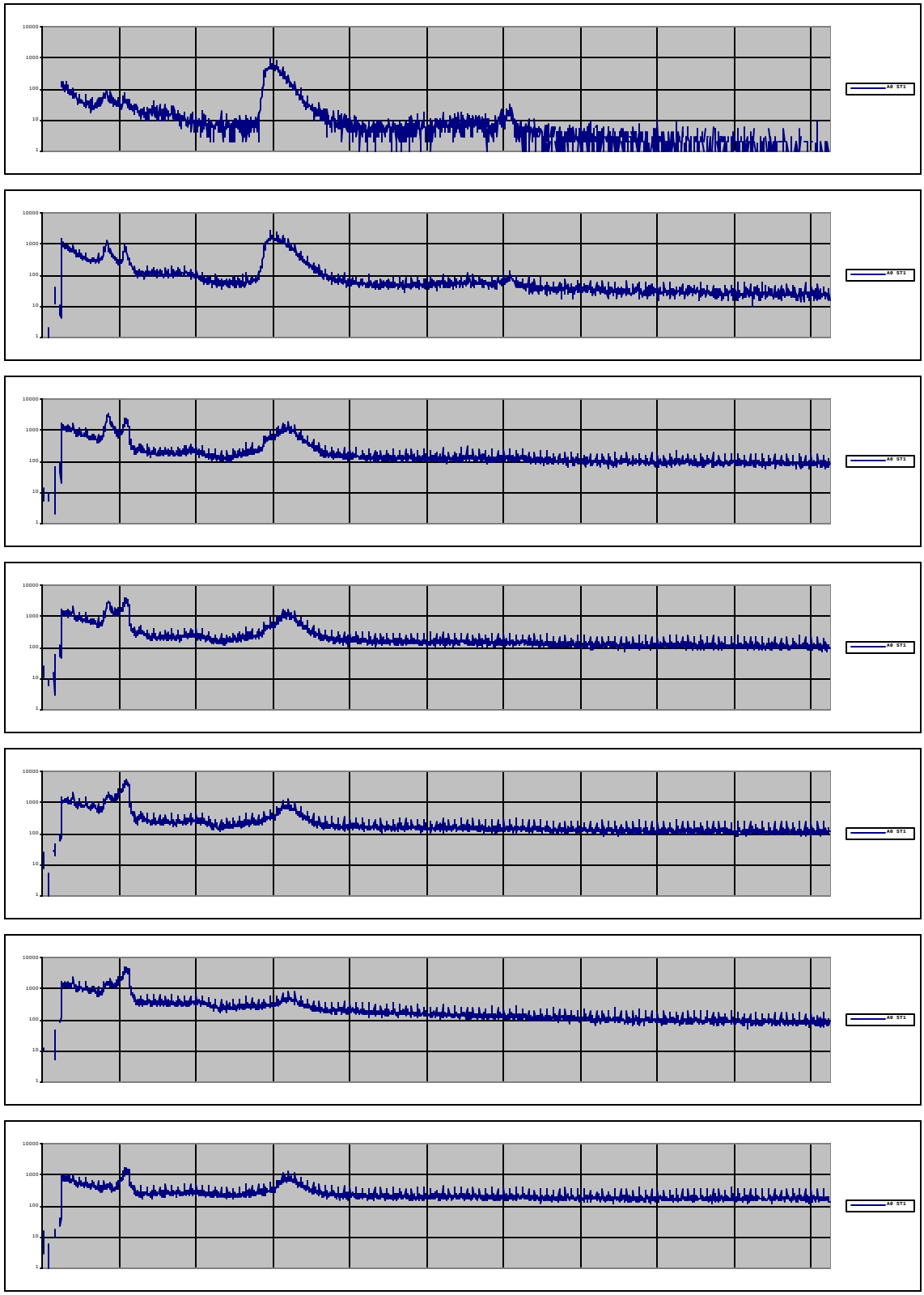


10/17/02, IMS112.DAT, 5000eV, Ne+ Beam, **Highest Rate**, TOF +/-14.56kV
Anode 0, MCP 2500, 1600, **Thr = 15,15**
Time = 300 Sec. All Channels Enabled, Ionization Gauge OFF









SUMMARY Stacked Plots, ST TOF Increasing Beam Intensity IMS106-IMS112