AMS Data Acquisition (DAQ) Software

6 th AMS Users Meeting

Juelich, Germany

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Update on Software Status

Current Software Version: V 4.5.9

Software versions that are most widely distributed right now: AMS Versions V 4.4.4. and 4.3.mode

Updated Operating Modes include:

1) Fixed Scan Saving in MS and TOF modes
2) Light Scattering
3) Jump-MS*

* Will be discussed by Jose Jimenez during this users meeting

I recommend that you all update to V 4.5.9!

Downloading AMS DAQ Software

1) Aerodyne ftp site:
AMSIncoming\AMSUsers\ALLUsers\AMSSoftware

2) Jose's Web Page(http://cires.colorado.edu)
Section 3.4. Resources for Aerodyne AMS Users

- provides direct link to ARI ftp site

You will be prompted for the Username/Password combination that you use to access your folder on the ftp site. (Please ask Tim or Manjula if you don't have this information)

If the downloaded AMSV4.5.9.exe crashes:

Run the Win2K Application Setup on your computer as described at the end of this presentation.

Fixed Scan Saving

- Enables Saving of MS or TOF data after program has completed a user specified number of scans in the operating mode.

  Time for 1 MS Scan= 0.3 s

  Time for 1 TOF Scan = 0.3 s* (# of selected m/z)

So, this mode allows for a max time resolution of 0.3 seconds in either MS or TOF mode.

<u>IMPORTANT CURRENT CONSTRAINTS OF THIS FEATURE:</u>

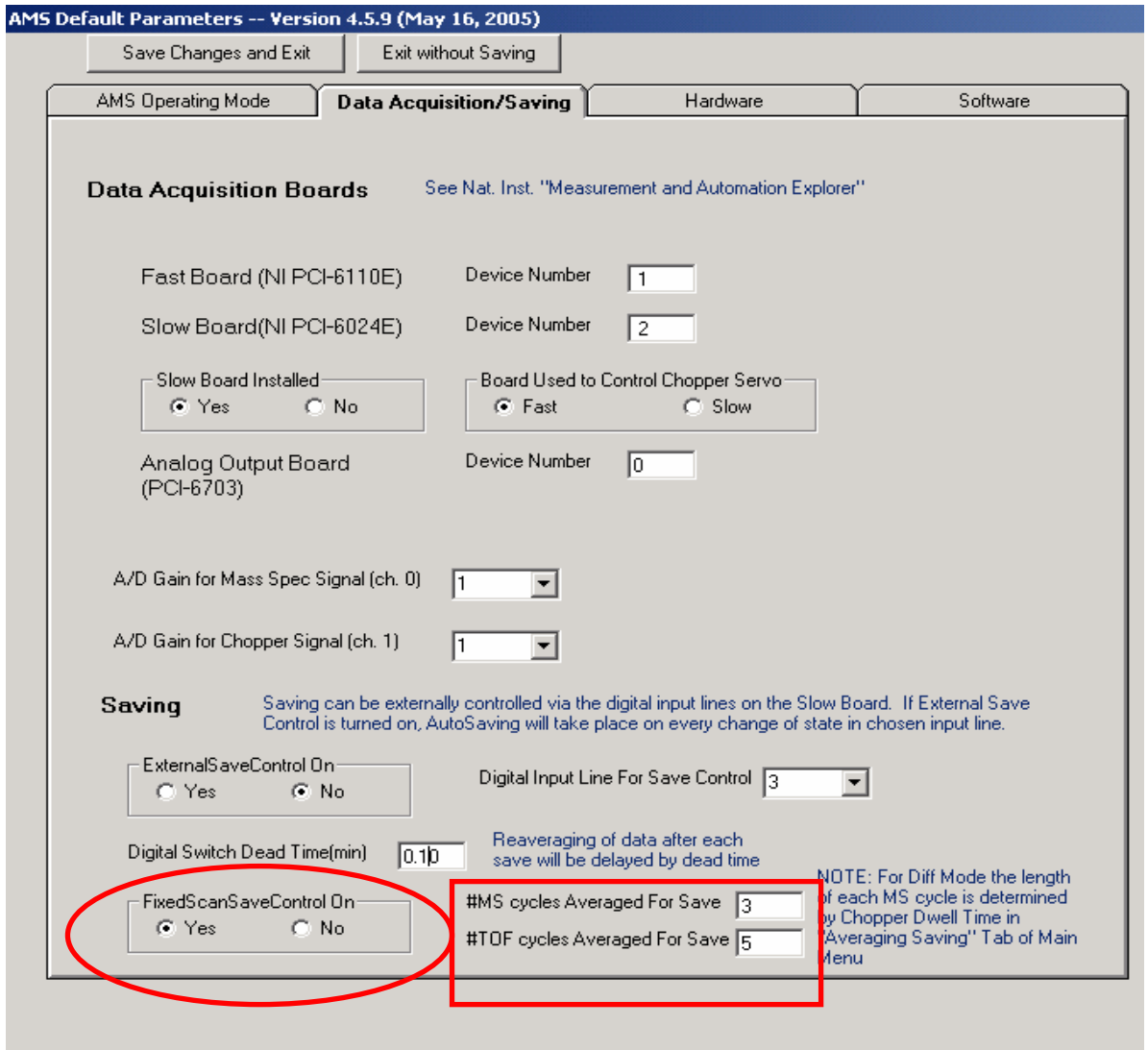
1) In MS Mode, this feature does not work in Toggle Mode.

   MS Mode should be operated w/ Chopper in Open Position, and with Signal Averaging On (Press F4 in MS Screen)

2) Currently this saving does not work in TOF/MS Alternate mode

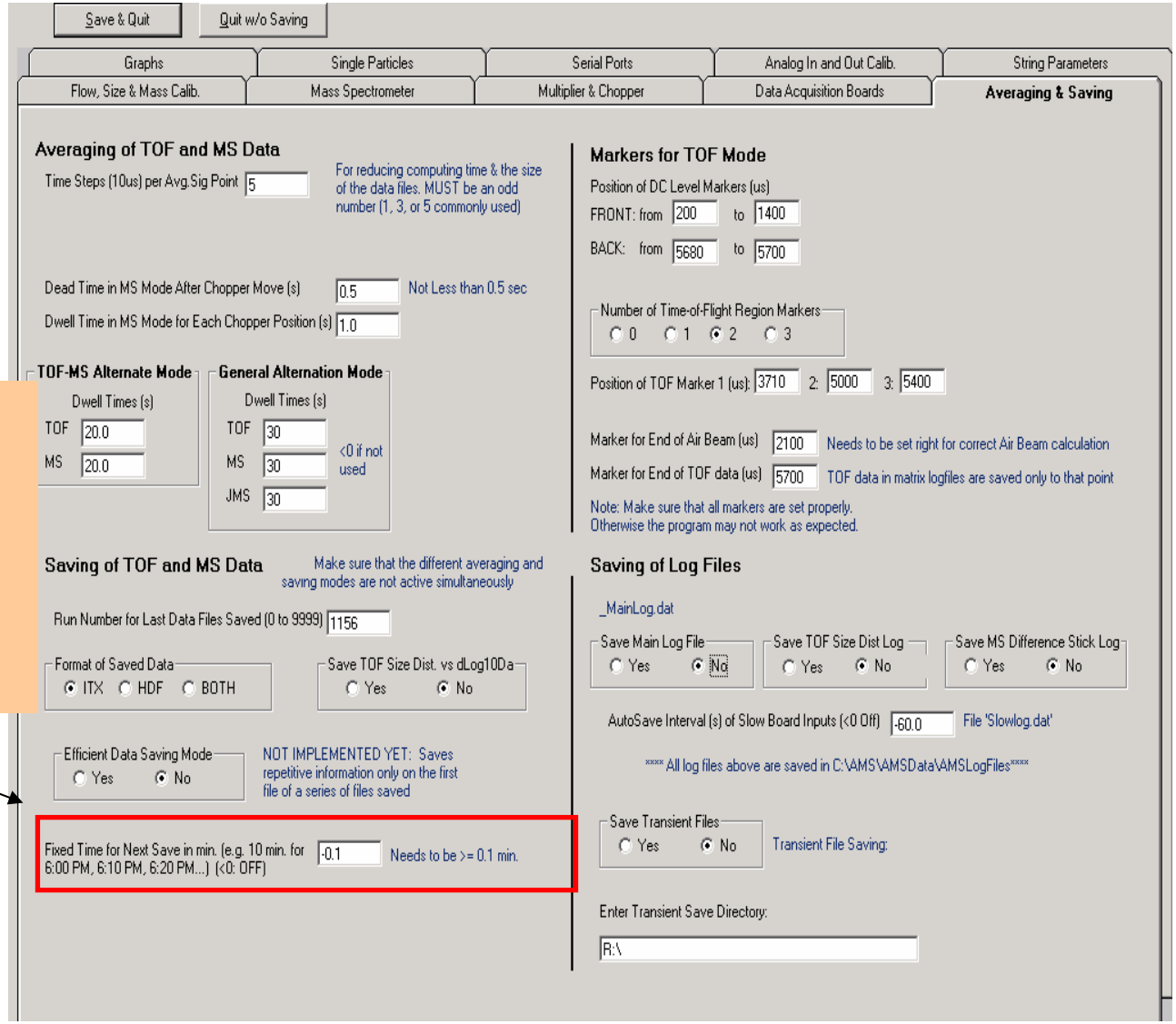
Fixed Scan Saving Menu Parameters

Get into Default Parameter Menu

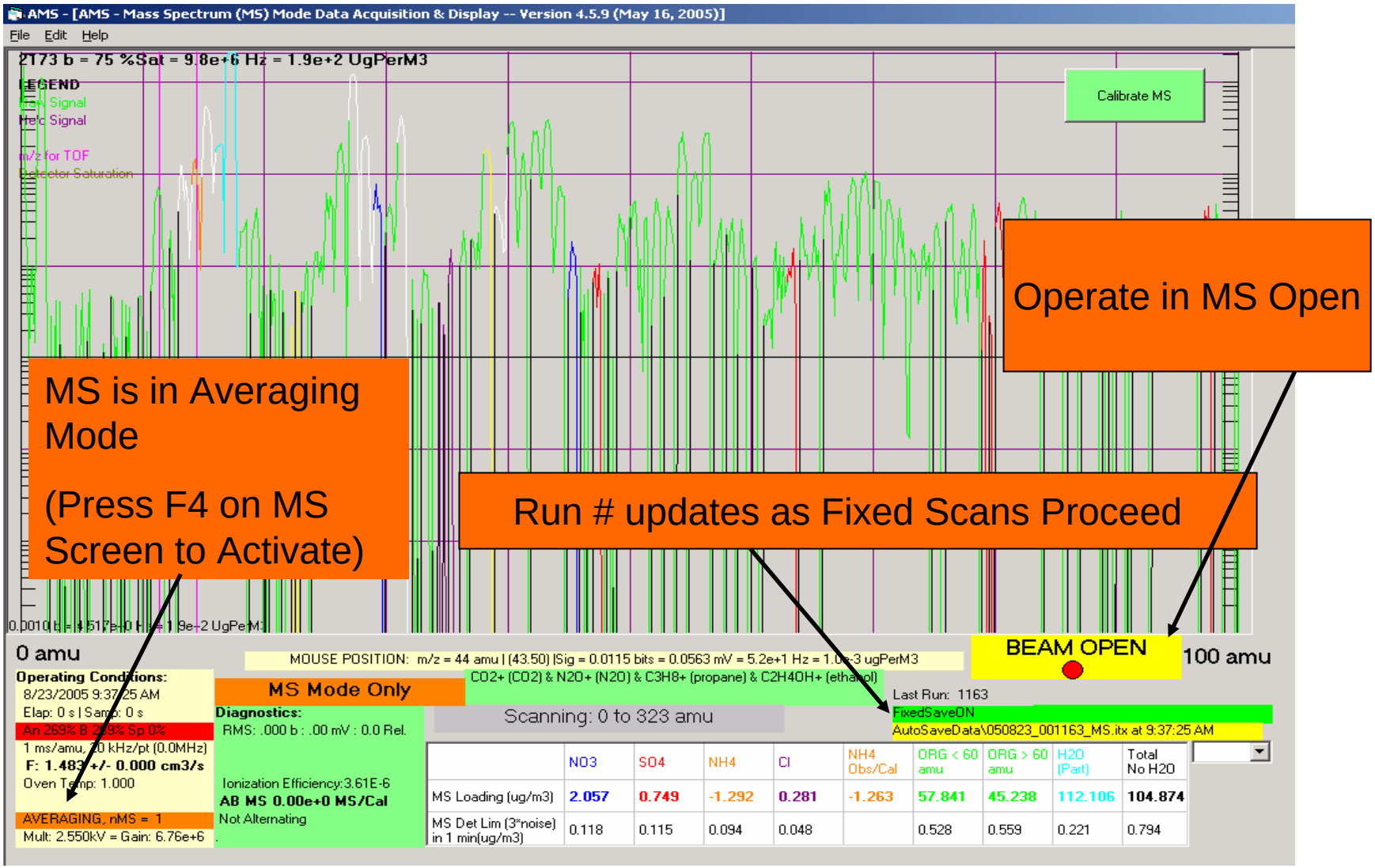


Fixed Scan Saving Menu Parameters

Autosaving Feature in Main Menu Must be Manually Turned OFF when FixedScanSaveControl is Turned ON



MS Screen w/ FixedScanSave ON



Useful Background Information For AMS Data Acquisition Program

Downloading Application Setup Program

- You MUST update the Application Setup Program to the Win2K Version in order to run new version of AMS program.

The Win2K Application Setup can be downloaded from the ARI FTP site in the following folder:

AMSIncoming\AMSUsers\ALLUsers\AMSSoftware\Installs\Win2KInstalls

Installing Application Setup Program

1) Uninstall previous Application Program
   - go to Start\Settings\ControlPanel\AddRemoveSoftware
   - Remove Program called AMS

2) Install the Win2000 Application Program
   - Shut down all other programs
   - Go to copy of Win2KInstalls folder and start the Setup.exe

   NOTE: Ignore the message that reports a conflict with the shdocvw.dll

Software Requirements During Field Campaigns

CD's containing the following files should be available:

1) NIDAQ Software

2) AMS Application Setup Folder from ftp site

3) AMSMenu.prm and AMSID.prm files.

AMS Program Requirements

1) Pre-installation of the appropriate AMS Application Setup Program
2) Pre- installation of the NIDAQ Software for slow/fast Data Acquisition Boards

   NOTE: The NIDAQ EXAMPLES FILE MUST ALSO BE INCLUDED IN INSTALLATION

   - NIDAQ intallation process places files accessed by AMS program(i.e. NIDAQ32.dll and NIDEX32.dll) in C:\winnt\System32 folder.

3) The computer C drive must contain a C:\AMS\AMSCode folder with the following files:
   a) AMSMenu.prm
   b) AMSID.prm files.

AMS Software problems

1) Check Menu (especially if problem is sudden)

- Gets corrupted if program crashes or is exited in non-standard way
- At least 50% of problems are due to this
- C:\AMS\AMSCode\AMSMenu.prm
- A copy is saved on AMSLogFiles directory (C:\AMS\AMSData\AMSLogFiles) every day you use the program (i.e. 041011_Menu.prm for today's menu)
- Also saved in every ITX file ("par" and "ParStr")
- Compare you current menu with a known good one side-by-side in Excel
- Make backups of known good menus

AMS Software problems

2) Runtime Error # 6

- Typically occurs in TOF mode only not in MS mode. It is often because of a drop out of the chopper signal.
- chopper signal can drop out if bad lsignal coming from diode or chopper wheel is not spinning when chopper servo moves through the block/chop/open cycles
- Software crash due to this error will be prevented in future software versions

3) Check TOF velocity calibration. This can cause “division by zero” issues

Most Current Software problems due to either menu corruption or Chopper signal issues!

Troubleshooting Software Problems

Information Needed:

1) Software version
2) Exact error message
3) Operating mode (Alternating, TOF Mode only,LS On…)
4) What mode the error occurs in (TOF/MS /JMS)
5) Any keystrokes that may have caused error
6) AMSMenu.prm