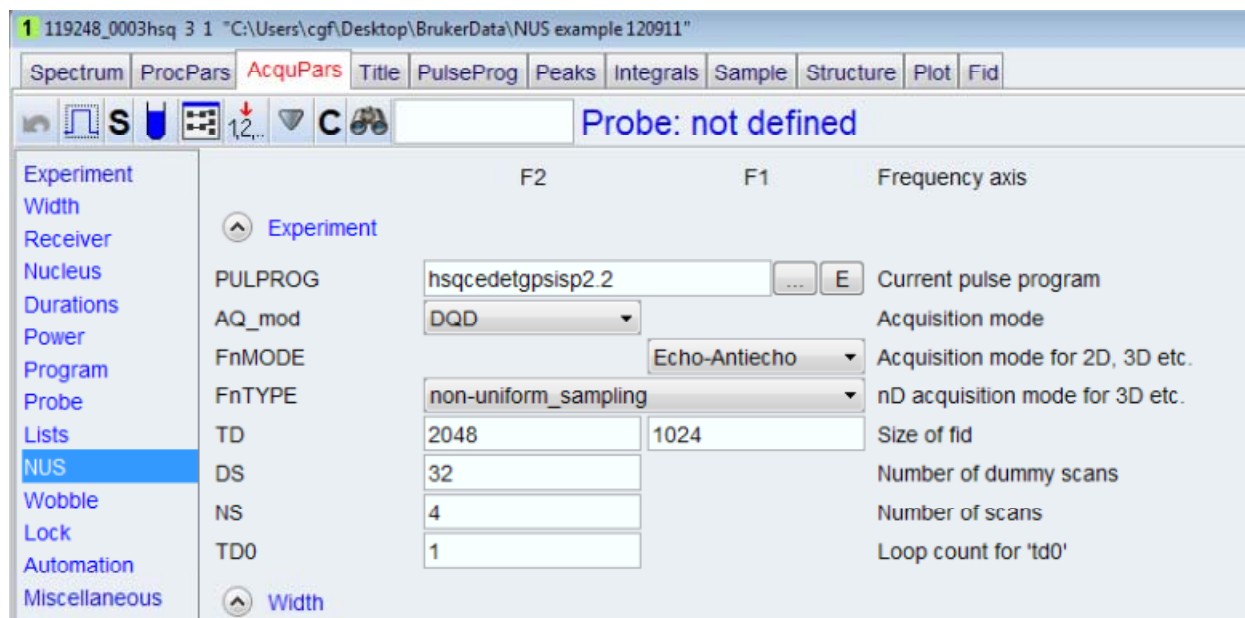


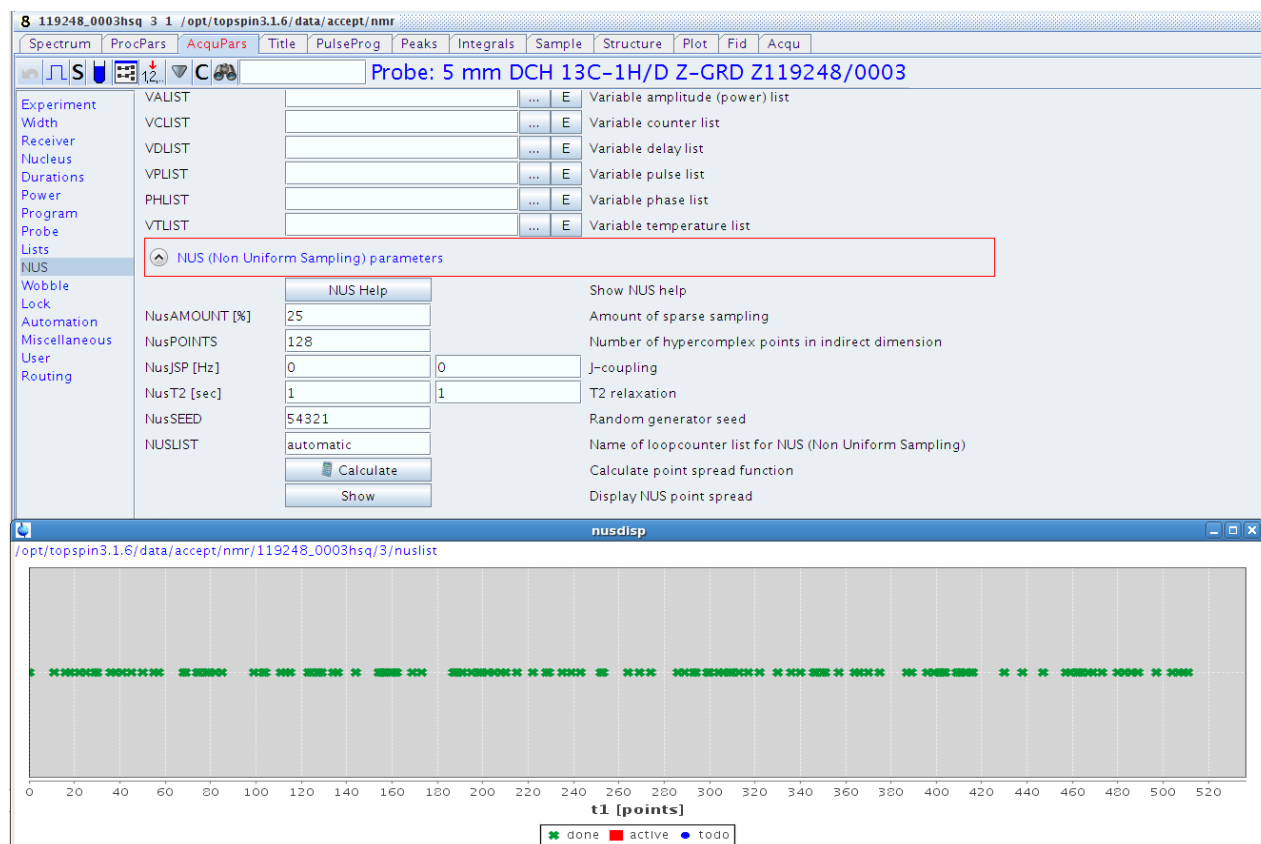
# Non-Uniform Sampling (NUS) in TopSpin 3.1 pl6

updated: 2012.09.11 (cgf)

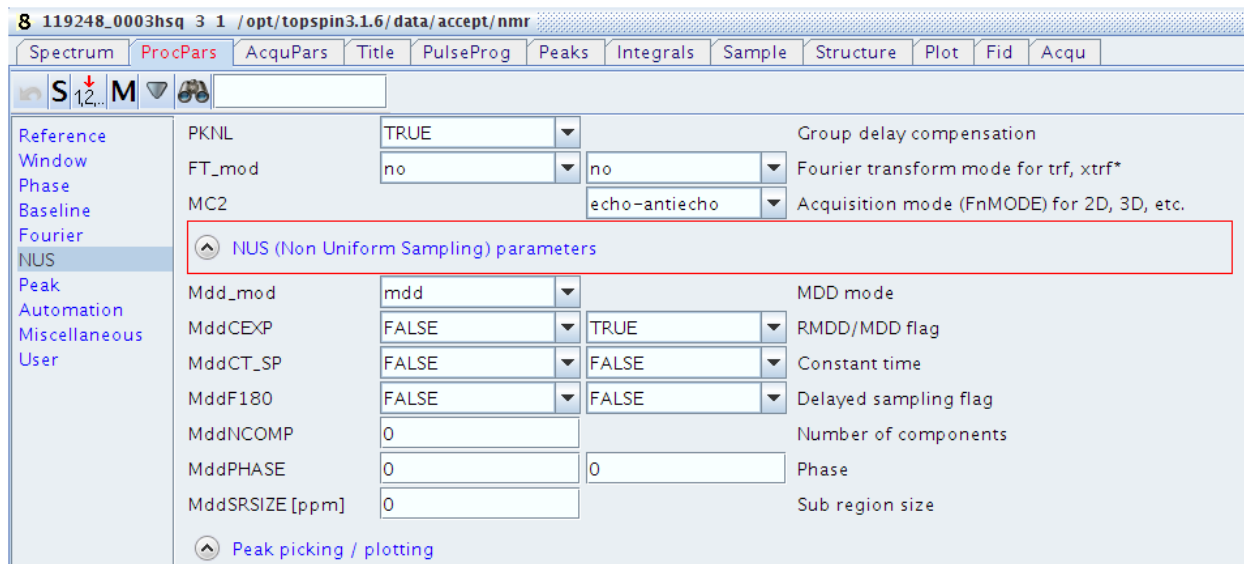
1. In ACQUPARS set: **FnType = non-uniform\_sampling**



2. To improve resolution in F1, increase TD1: in the example, from 256 to 1024. For a 25% NUS, the experiment will run in the same total time.
3. Click on the NUS tab in ACQUPARS, and update parameters as needed. Here they are left at the defaults, with 25% sampling. Note that NusPOINTS is given in complex pairs, whereas TD1 is stated in total points; so NusPOINTS is  $\frac{1}{4}$  TD1 in this example. SHOW display the sampling protocol.



- Acquire the dataset. In this example, we used parameters from a normal hsqc with TD1=256, all else the same.
- Click the PROCARS tab and update parameters in the NUS section. Here we left all at the defaults. Mdd\_mod processing is set to **mdd** [cs mod might be superior, but requires separate licensing].



- xfb** will perform the transform. With this **mdd** example, the transform took 8 min on our new HP CentOS computer (host purchased from Bruker): SI=SI1=1k, MddNCOMP=0. A running block counter provides a good way of estimating progress of the transform.
- Next two pages give some **.md** plots from data acquired on the Bruker standard cyclosporine sample in C6D6. Blue-green are positive-negative of the standard hsqc; red-pink are positive-negative from the NUS hsqc.

