

NMR data processing software

Delta

NMR Software

v5.0



如何解决实验测定中无法锁场



实验测定中出现无法锁场情况

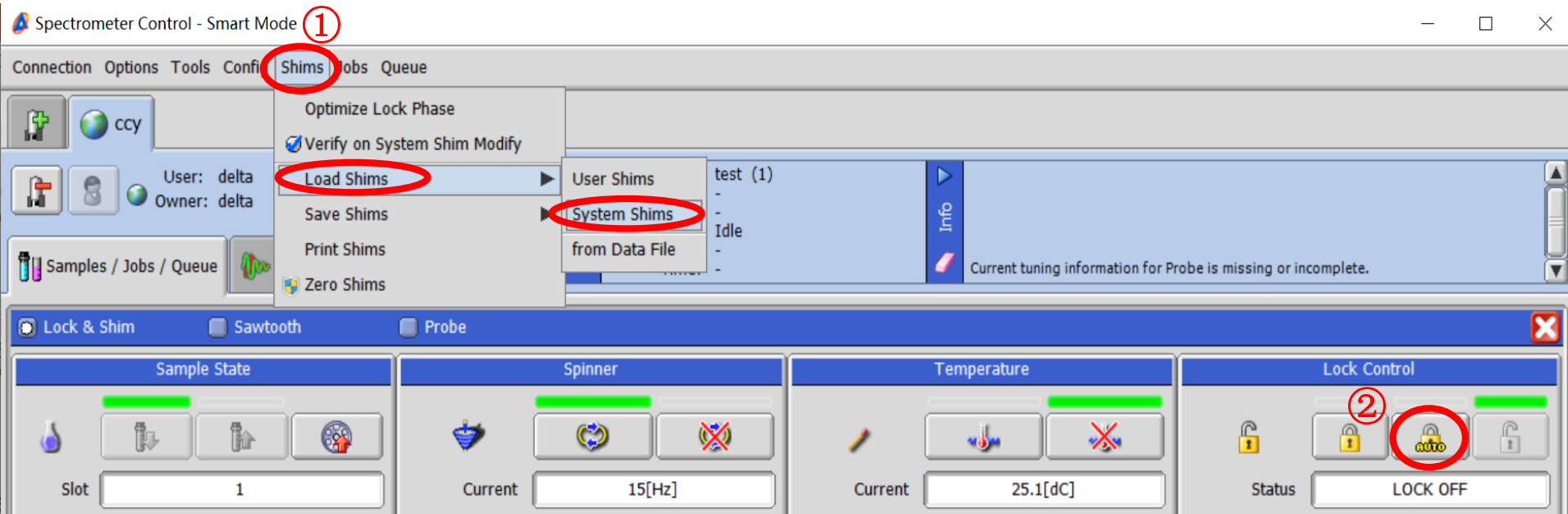
当出现无法锁场的报错提示：**Failed to reach Lock State "AUTOLOCK"**

Experiment Interruption Requested by Spectrometer

注：出现报错后，首先确认氘代溶剂是否选择正确？

1. 个别样品出现此类情况：

➤ 第一步：①Load system shim→②再点自动锁场



➤ 第二步：若上一步骤操作完后，无法锁场，放入 CHCl_3 在氘代丙酮中的标样，再Load system shim→再点自动锁场

➤ 第三步：使用标样匀场锁场后，再重新放入待测样品进行匀场锁场

注意：如果是由于样品中含有磁性物质等原因造成的无法锁场，不能继续测试！

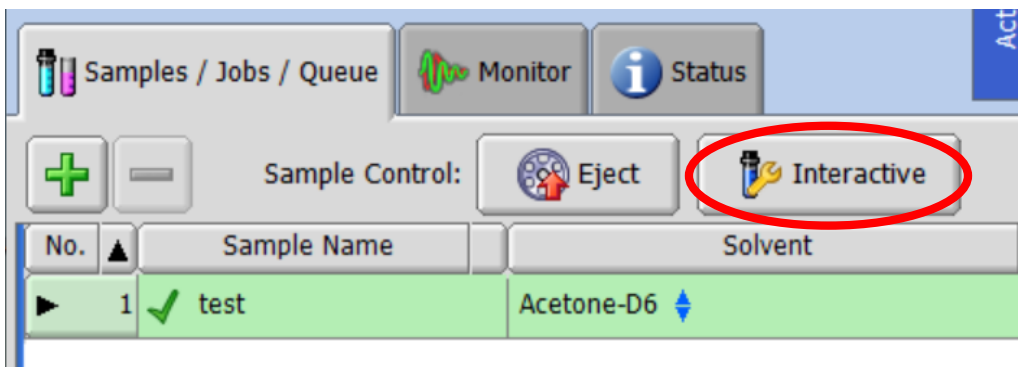
2. 所有样品（包括标样）均无法锁场：

➤ 第一步：检查锁场线是否正确连接



标有“LOCK”的线为锁场线

➤ 第二步：若锁场线正确连接，放入0.1%EB在CDCl₃中的标样→打开Interactive



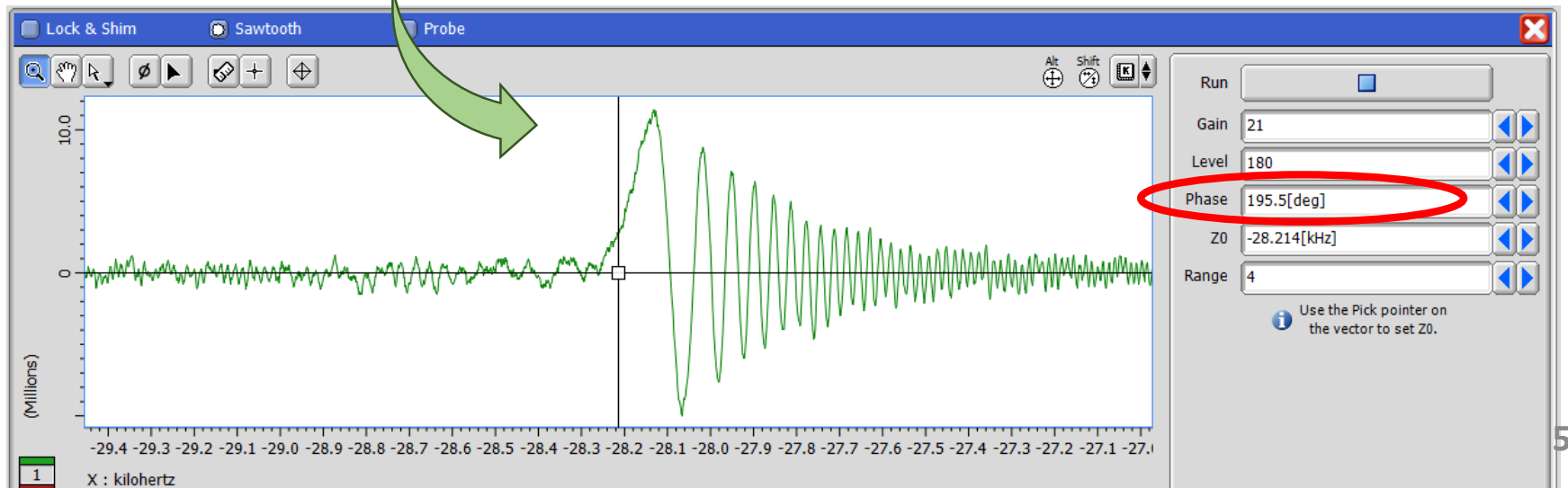
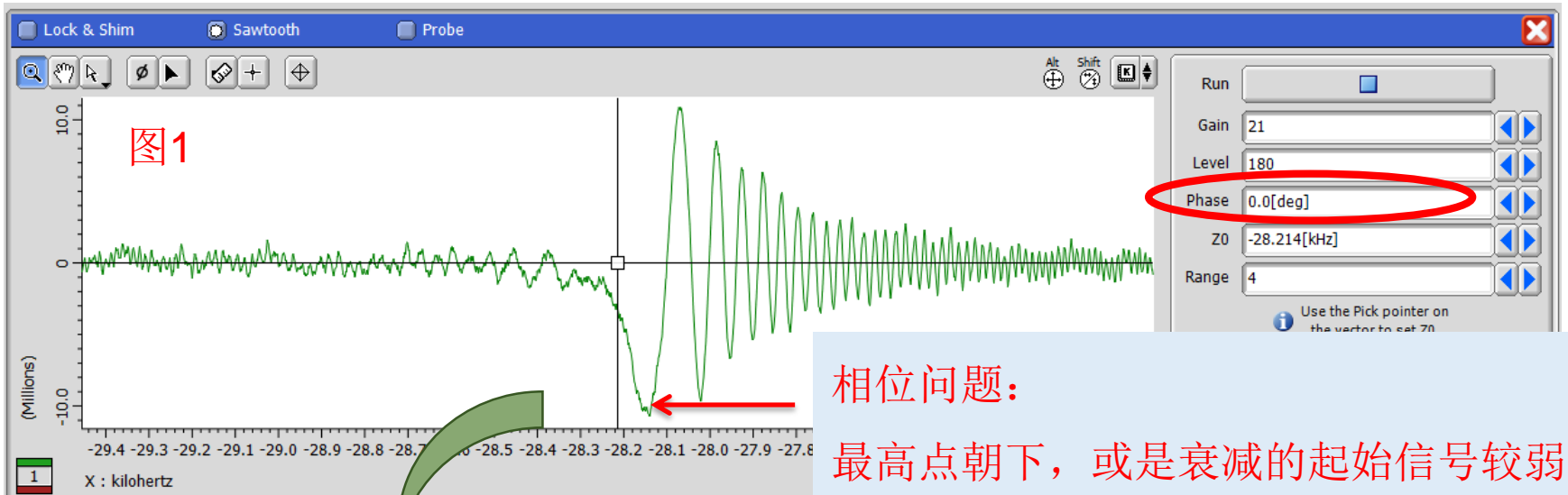
➤ 第三步：打开Sawtooth工具→点击右侧Run按钮

The screenshot displays a software interface with the following components:

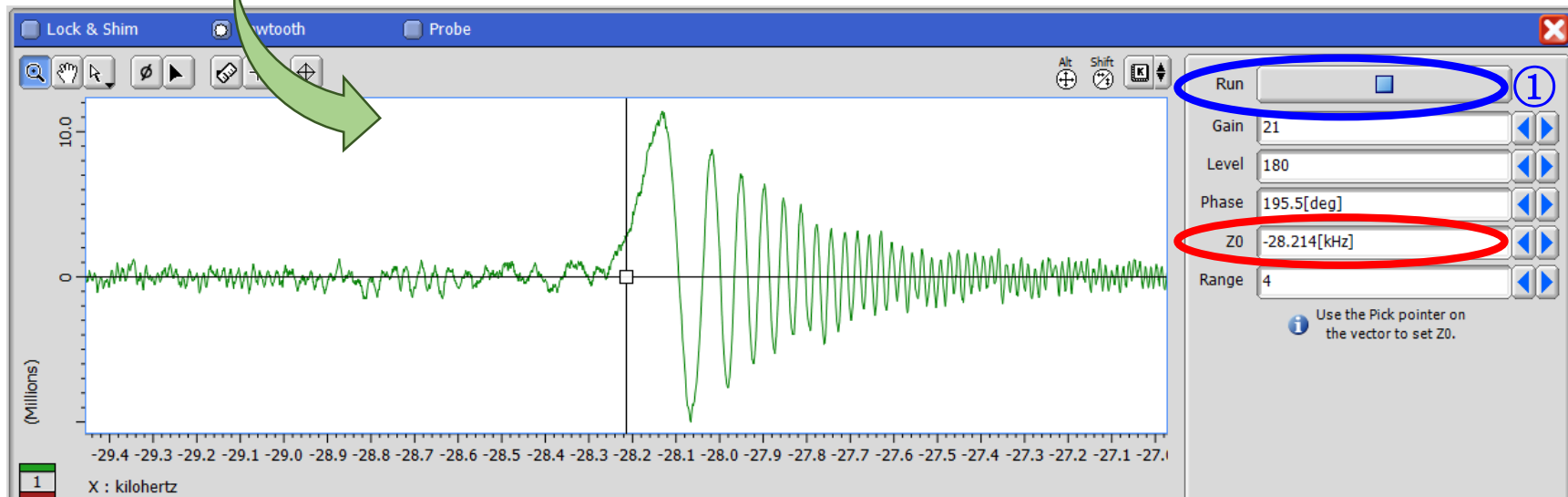
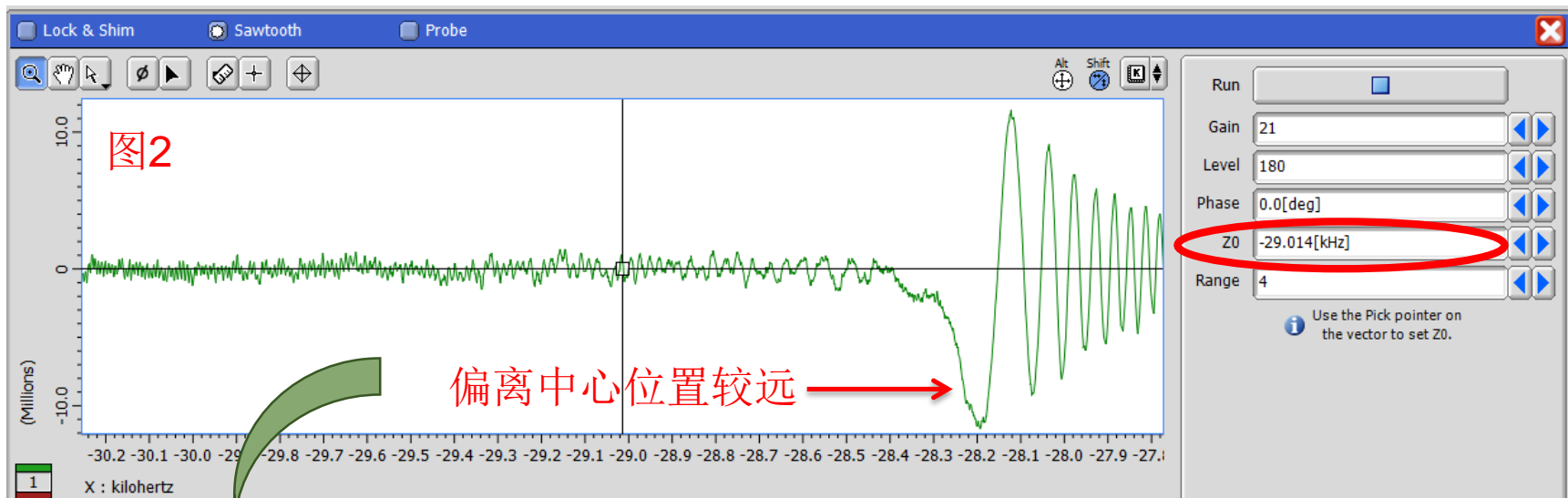
- Top Bar:** Contains three tabs: "Lock & Shim", "Sawtooth" (highlighted with a red circle), and "Probe".
- Plot Area:** A graph with a vertical axis labeled "Y : (Thousands)" ranging from 0.1 to 1.1 and a horizontal axis labeled "X : seconds" ranging from 0.1 to 1.0.
- Right Panel:** Contains a "Run" button (circled in red) and several input fields:
 - Gain: 11
 - Level: 120
 - Phase: 195.5[deg]
 - Z0: -28.651[kHz]
 - Range: 4An information icon and text below these fields read: "Use the Pick pointer on the vector to set Z0."
- Shim Groups Section:** A blue header bar labeled "Shim Groups: Z1 Z2 Z3 Z4" is followed by four columns of controls:
 - Z1:** Frequency field shows 510.63[Hz].
 - Z2:** Frequency field shows -46.51[Hz].
 - Z3:** Frequency field shows 7.4[Hz].
 - Z4:** Frequency field shows 14.35[Hz].Each column includes a frequency field, a "Reset" button, and three sets of multiplier buttons: +5x, +10x, +50x (top row) and -5x, -10x, -50x (bottom row).

➤ 第四步：左侧界面出现氦信号：

(1) 若如下图1所示→调节Phase，使最高点在上方，且靠近中心位置

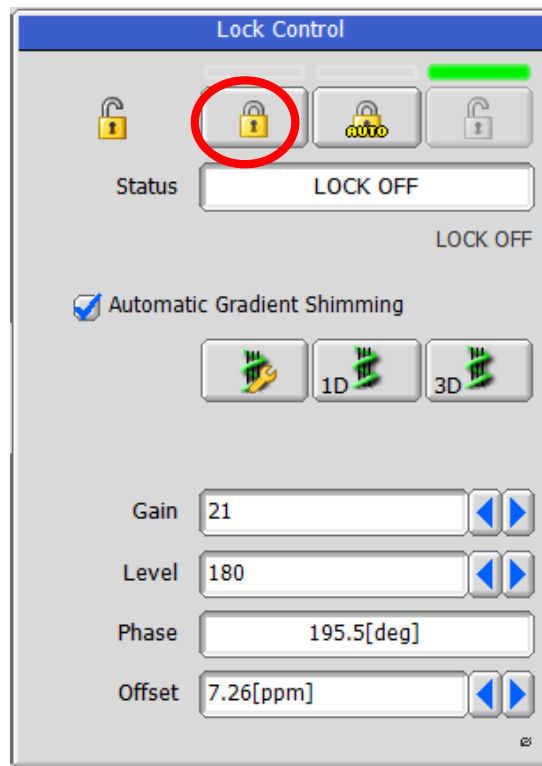


(2) 若如下图2所示→调节Z0, 使最高点靠近中心位置→再点停止①



注：如果不清楚如何调节，请拍下此界面图片，联系工程师处理！

- 第五步：回到Lock&Shim界面→点击Lock按钮→再保存为系统匀场值
→放入待测样品测试



3. 某种氘代溶剂的一批样品出现此类情况：

- 比如使用 CDCl_3 溶剂，溶剂量少时易出现无法锁场→加入溶剂，或更换溶剂；
- 如果使用的混合溶剂，含氘量少时也会出现无法锁场→选择含氘量多的溶剂作为锁场溶剂。