

DSG-HDice R&D Meeting Minutes

Date: September 11, 2020

Time: 11:00AM – 11:40AM

Attendees: Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, Tyler Lemon, Marc McMullen, Amrit Yegneswaran

1. Presented and discussed “fsNMR Requests Made August 20, 2020” talk
 - 1.1. Talk attached at end of minutes
2. VI requested and provided to remotely control Oxford IPS 120 power supply while UITF tests are occurring
 - 2.1. Initial VI developed by Peter Bonneau for VISA driver development
 - 2.2. HDice group requested addition of power supply voltage readback and heater switch control, developed by Tyler Lemon
3. Discussed findings of CSV conversion to HDF5 (Hierarchical Data Format version 5) investigation
 - 3.1. HDF5 files have .h5 file extension and store all data in subsets
 - 3.2. Tyler Lemon developed Python program to read CSV file and create HDF5 file from data
 - 3.3. When HDF5 file was uploaded to Zurich lock-in amplifier, instrument gave error stating to check file permissions
 - 3.4. Discovered that lock-in amplifier can only have files that it creates uploaded to it
 - 3.4.1. .h5 files it creates most likely has metadata or checksum that verifies that file has not been manipulated
 - 3.5. DSG will continue developing Zurich lock-in amplifier-based fsNMR program
 - 3.6. Tom O’Connell of HDice group will look into whether there is a paid option that would allow uploading files