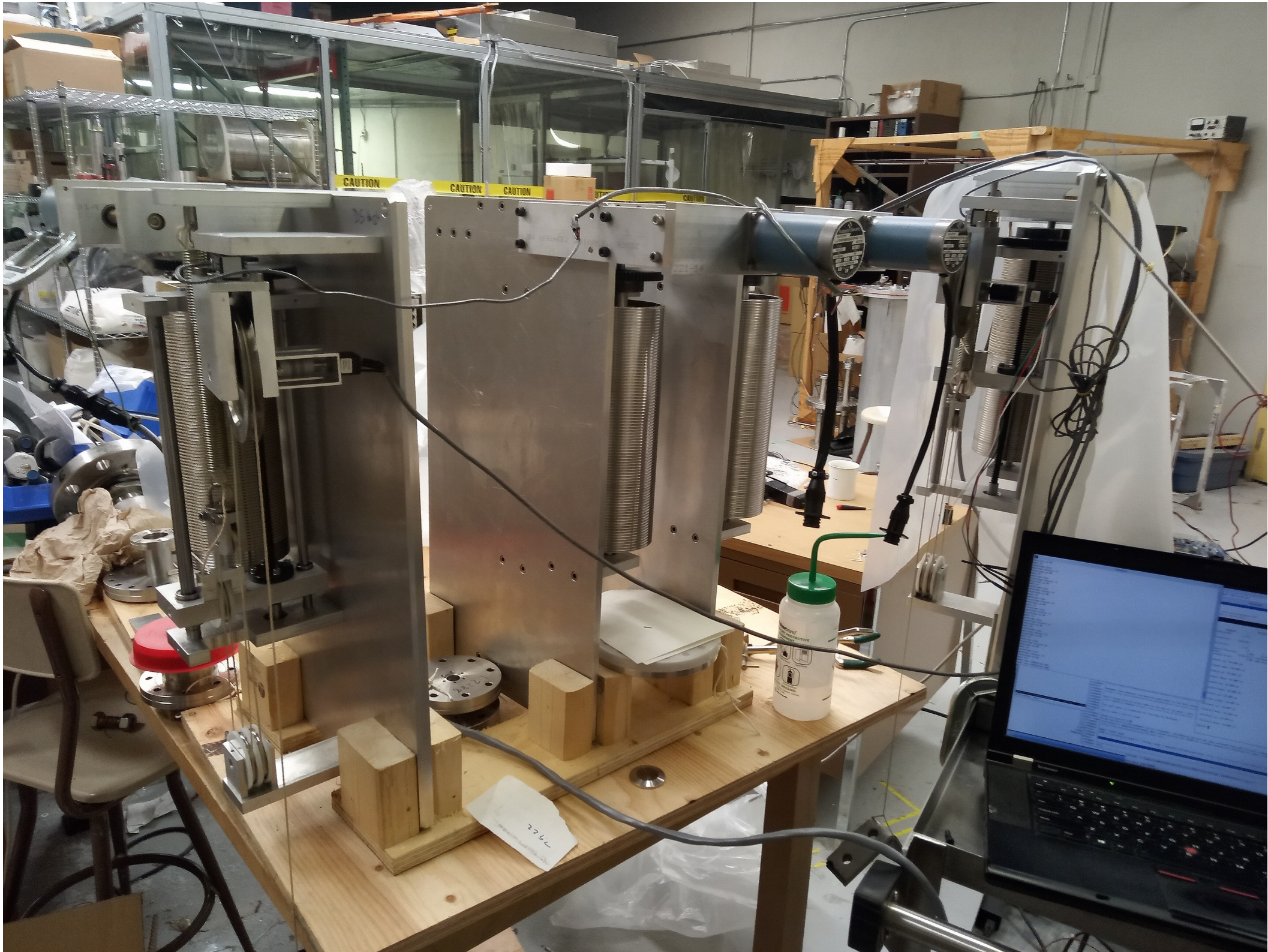
Status

- All four units are complete and being tested
  - Found a few minor problems – being fixed
- Using (old) 100 lbs load cells for now – will switch to new 50 lbs for better resolution
- Unit length (motor step + encoder) agrees with laser range finder to within +-1mm at eight meters rope length
- 3 units spooled so far
- Constant tension mode works at low ~ 5N load
- Units work with loads between 4 and 75 N
- Started construction of shipping box for two units (with motors and ropes)
- Will ship two units to France towards end of month
- Other two units will be mounted on crane I-beam with U-tube connecting them for drive tests
- Motors work well at 24 – 30 V .
- Need careful grounding to keep load cell noise low . Adding extra filtering on new daughter boards
- All 4 encoders work perfectly
-

- Programming of ARM STM32F407IGTx micro controller is progressing well :
  - PWM timers (x 3) (need only 2 for DS)
  - RTC (almost complete)
  - Watchdog timer (not complete yet)
  - GPIO (basic stuff done, need to add ADC interrupt)
  - USB (basic HW and HAL code done, still need buffering)
  - Motor interrupt code (basic structure done)
- Using STM32CubeIDE on Linux to develop code (in C)
- Using Dfu-util (on Linux) to burn code to ROM
- Using modified (FSCM disabled) XCore407I development board from Waveshare
  - Has USB FS on board. Also ETH and USB HS
- Relatively simple to port / translate existing Atmel AVR32 code to STM32F407
-

- Using SNO+ v2 daughter cards with load cell preamp and ADC, limit switches, motor controller and rope encoder
- Layout of translator board which makes XCore407I board pin out compatible with Atmel AVR32 almost complete .
- Making first (prototype) enclosure for SLO-SYN stepper controller
- Have components (connectors, pins, cables etc.) for assembling 4 boxes
-
- Need to write high level OO code module to drive “2-axis” system


CAUTION
CAUTION
CAUTION
CAUTION


24.0
15.
VOLTAGE
CURRENT
B&K PRECISION
1687B