Ultra-low temperature high magnetic field quantum oscillation experimental station

Ultra-low temperature high magnetic field quantum oscillation experimental station consists of two magnet systems, one is 26 T high and low temperature hybrid super-conducting magnet system, and low temperature super-conducting magnet system. The two super-conducting systems can share one dilute refrigerator with rotator structure, which temperature range is 30 mK– 1.2 K. Each magnet system has its own VTI insert, which temperature range is 1.5 K – 300 K.

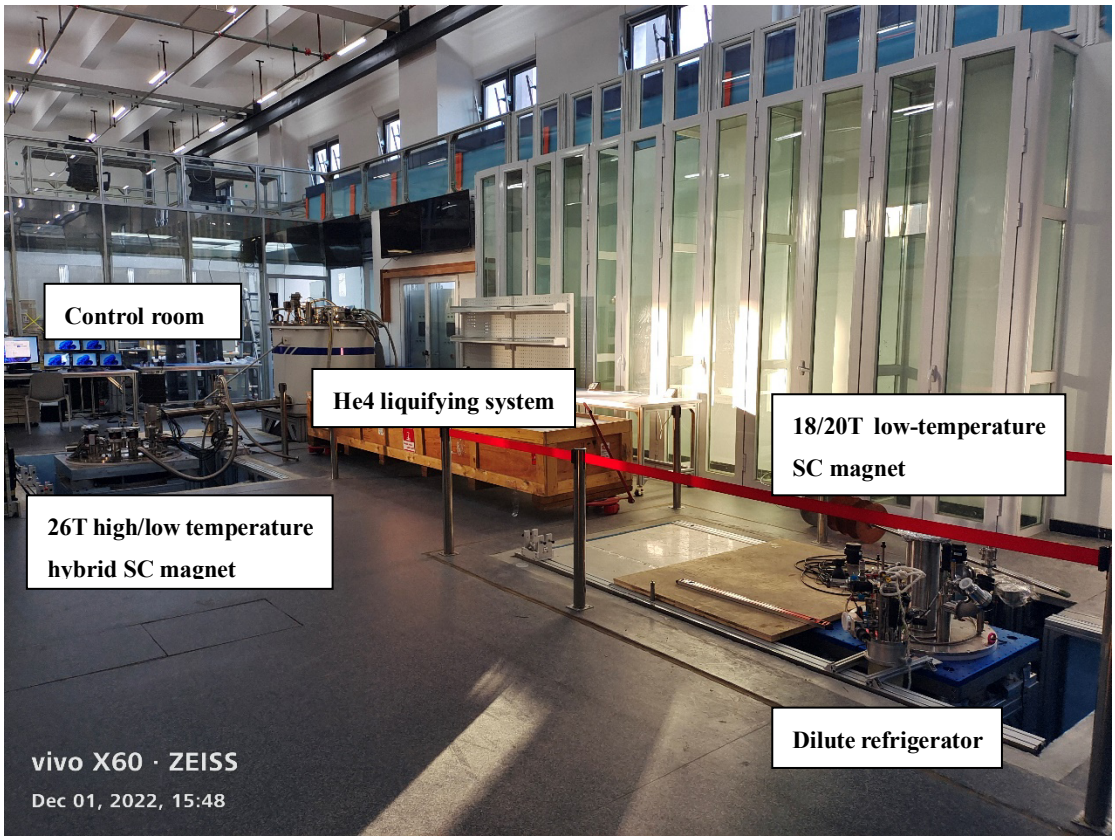

Photo of the experimental station

The corresponding sample rods also have rotator structure. The available measurement system includes: 1. TDO measurement system, 2. Nano volt low level measurement system. User can also collaborate with the sub-system and develop other and new measurement systems, like high pressure, and spectrum-scopey systems etc.

Specification of ultra-low temperature high magnetic field quantum oscillation experimental station

Parameters	Values
Maximum field	0-26 T
Dilute refrigerator temperature range	30 mK - 1.2 K
VTI temperature range	1.5 - 300 K
TDO frequency shift precision	10^{-8} (central frequency 35 MHz)
Low level voltage measurement	≤10 nV
26 T hybrid super-conducting magnet system sample size	≤10 mm
18/20 T low temperature super-conducting magnet system sample size	≤15 mm

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