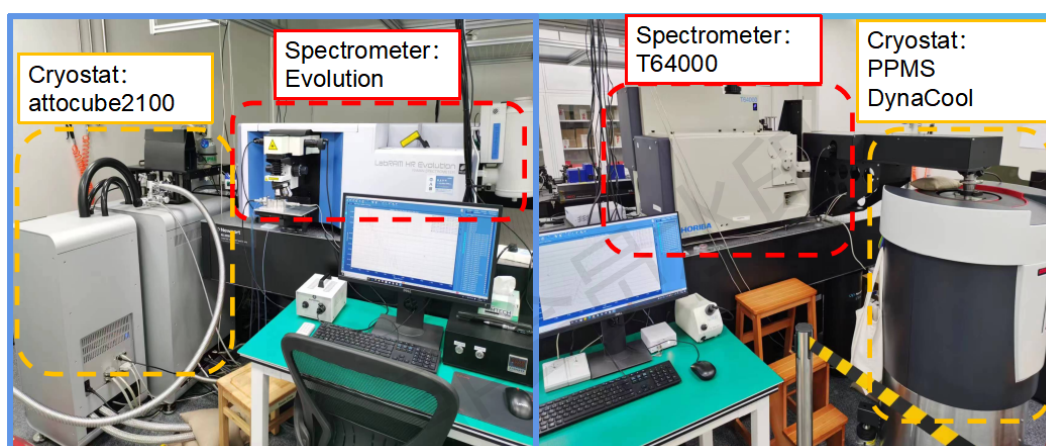


## Raman spectrum measurement station under extreme conditions

Raman spectrum measurement station under extreme conditions consists of Raman spectrometer (HR-evolution/T64000), cryostat (attocube2100/ PPMS dynaCool), high pressure pack (TozerDAC) and other equipment. Our station is mainly used for the Raman research of solid materials at low temperatures down to 1.8 K, strong magnetic fields up to 14 T and high pressure up to ~30 GPa. In addition, the Raman spectrometer is equipped with four different wavelength lasers (473, 532, 633, 785 nm), which can achieve a minimum of  $10\text{ cm}^{-1}$  measurement.



Photos of the experimental station

### Specification of Raman spectrum measurement station

Parameters	Values
Maximum field	14 T
Temperature range	1.8 K-500 K
Maximum pressure	~ 30 GPa
Excitation wavelength	473nm, 532nm, 633nm, 785nm
Minimum wavenumber	~ $10\text{ cm}^{-1}$
Resolution	~ $0.2\text{ cm}^{-1}$
Travel range	$\pm 2.5\text{ mm}$

**A detailed introduction to Raman spectrum measurement station:**

1. Four laser wavelengths are available: 473 nm, 532 nm, 633 nm, 785 nm.
2. The measured sample is placed on the low-temperature displacement device with the size of 20 mm\*11 mm, and its travel range is about  $\pm 2.5$  mm. In addition, the sample can rotate 360 degrees at low temperatures.
3. Two low-temperature objective lens can be selected: objective lens A: numerical aperture NA~0.82, working distance 0.65 mm; Objective lens B: numerical aperture NA~0.3, working distance 9.4 mm.
4. A variety of polarization Raman measurement are available: such as xx, yy, x'x', y'y', RR, RL, etc.

**Contact Information:**

Dr. Jin, E-mail: [jinfeng@iphy.ac.cn](mailto:jinfeng@iphy.ac.cn).