

Celebrating a Decade of Scientific Excellence



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“Facilities of the Centre for High Pressure Research and remarkable results on various strongly correlated materials”

Abstract: Centre for High Pressure Research is an unique Centre in India with excellent research facilities such as Physical Property Measurement System, Closed Cycle Refrigerator system with Variable Temperature Insert (CCR-VTI) (4 K), 9 T cryogen free magnet with CCR-VTI (2 K), Powder X-Ray Diffractometer, Electric Discharge Micro Drilling Machine (EDM), CNC lathe, Industrial microscope (Meiji and Olympus), Indigenous pressure cells such as Diamond Anvil Pressure Cell (20 GPa), Clamp type Piston Cylinder Hydrostatic Pressure Cell (3.5 GPa) for resistivity measurements, Hydrostatic Piston cylinder pressure cell (1 GPa) for Magnetic measurements, Uniaxial Pressure device for transport and magnetic measurements, Modified Bridgman hydrostatic Pressure cell (8 GPa) and High Temperature Dielectric Measurement system. Further, the contribution of CHPR research work to the field of Physics contains cutting-edge work on various innovative materials, such as superconducting, Charge density wave, magnetic refrigeration, magnetic, magnetocaloric, high entropy alloy, Heusler alloys, nano and supercapacitors under extreme conditions of high pressure, low temperature and high magnetic field. Remarkable results obtained in collaboration with Xpress beamline, Elettra, Italy, on various strongly correlated systems, will be presented.



Figure 1: 9 T PPMS (Q.D. USA)

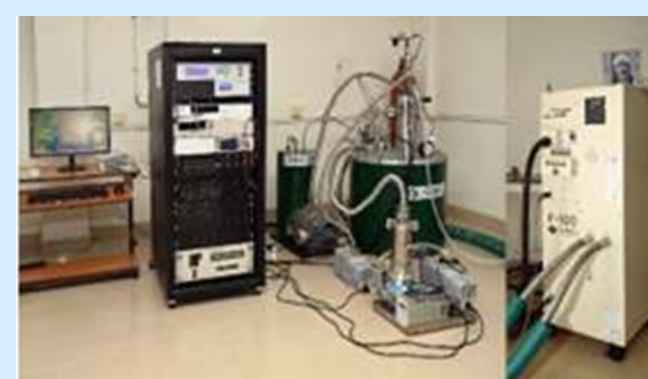


Figure 2: 9T CCR-VTI (Cryogenics, UK)

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