

Poster-2-20**Synthesis of Novel Materials Using Cubic Multi-Anvil High-Pressure Systems at the University of Geneva**

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High-pressure synthesis has become an indispensable tool for the synthesis and discovery of various quantum materials. The synergy of high pressure and temperature can be crucial, as it surpasses the limitations imposed by enthalpy-driven compound formation in traditional solid-state synthesis. We will outline the methods available at the Laboratory for Quantum Materials Discovery at the University of Geneva. We are currently using two systems: (i) A multi-anvil press equipped with a walker module configuration in a cubic arrangement. Operating at temperatures up to 1200 °C and pressures up to 3-4 GPa. (ii) A multi-anvil press equipped with a home-made configuration in a cubic arrangement, capable of reaching pressures up to 10 GPa and a maximal temperature of 1600 °C. Furthermore, we will present some of the results from our synthesis and crystal growth attempts using these systems.