

Structures, phase transitions and properties at high pressure are at the center of high-pressure research for decades, since they provide fundamental structural information that is the ground for the whole high-pressure science. This covers a large variety of domains from biology to cosmology.

In recent years, enormous progress has been realized in experimental techniques, in particular, in x-ray and neutron diffraction under extreme pressure-temperature conditions. In the present micro symposium that has attracted about 80 people such progresses were well illustrated in different presentations. More specifically, several high quality works using newly developed single crystal diffraction methods were detailed. A remarkable example of such single crystal work was presented by T. Watanuki on subtle structural modification of a complex Cd-Yb 1/1 quasicrystal approximant. This can be clearly seen in his synchrotron x-ray oscillation photographs showing the evolution of superlattice reflections with decreasing temperature at high pressure. This structural change is attributed to the successive orientational ordering of the Cd<sub>4</sub> tetrahedron which is the most inner unit of the four-shell atomic clusters occupying the bcc lattice sites. Newly found four structures together with known two structures constitute a complex *P-T* phase diagram.