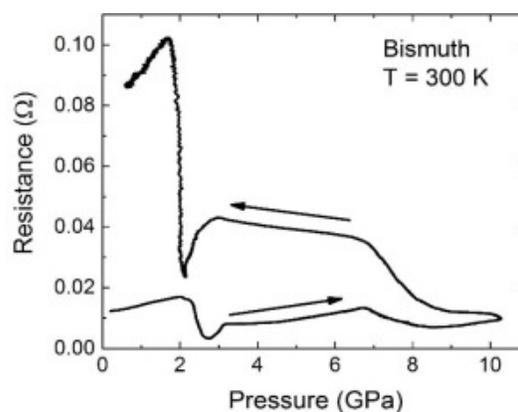
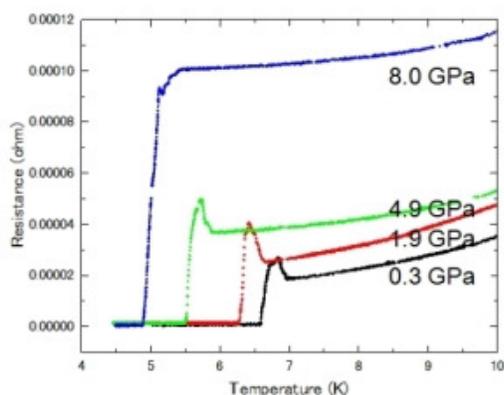


Patterned diamond anvils are now available from Almax easyLab

Electrical transport experiments play a key role in the study of many interesting high pressure phenomena, including pressure-induced superconductivity, insulator-to-metal transitions, and quantum critical behaviour. High-pressure electrical transport experiments also play an important function in geophysics and Earth's interior studies.

However, as you know, such measurements in a diamond anvil cell (DAC) have been very challenging with several different 'recipes' being adopted with various degrees of success. Now, Almax easyLab are delighted to offer diamond anvils with deposited gold patterns for electrical transport measurements in a DAC. Our **patterned diamond anvils** significantly facilitate such experiments. Electrical contacts between the sample and the conductive patterns on the diamond anvil can be made in a variety of ways, such as with silver epoxy, silver paint and even soft solder.

Typical data that can be obtained with a DAC equipped with our **patterned diamond anvils** is shown below. The graph on the left shows data on a sample of lead up to 8 GPa. The resistance as a function of temperature and pressure (measured using ruby fluorescence) clearly shows the onset of the superconducting transitions. The graph on the right shows the resistance of bismuth at room temperature at pressures up to above 10 GPa (also measured with ruby). The pressure-induced structural transitions are visible in the data. The observed effect of higher resistance on unloading is attributed to non-hydrostatic conditions in the sample chamber, as no pressure medium was used in this study. For both experiments the data agree perfectly well with established and published results.



We believe that **Almax easyLab's patterned anvils** together with the new **Diacell® ChicagoDAC** enable seamless transport measurements at extreme conditions. You can find out more about our products at www.almax-easyLab.com.

We look forward to hearing back from you and would be happy to answer any questions you may have.

Pictures of samples on diamond anvil and graphs are courtesy of D.Braithwaite and J.Hamlin.

