

Temperature and atmosphere controlled chamber

Some materials' electrical properties strongly depend on temperature and oxygen partial pressure. This setup in the SURF lab allows us to perform electrical impedance spectroscopy (EIS) measurements on these materials in a temperature range from room temperature to 1000°C. The atmosphere inside the chamber is a controlled mixture of nitrogen and oxygen, with the oxygen content varying from 1 ppm to 25%. Through the use of water cooling and radiation shields, we ensure that only the sample is heated. As such, sensitive measurement instruments can be placed inside the chamber, close to the sample. This enables us to measure with high precision at frequencies up to 10 MHz.

