

## Abstract

Differential scanning calorimetry (DSC) is an instrument serving for the thermal analysis of materials. It monitors the heat flux of the sample during a temperature scan over the desired range, which, in turn, gives the heat capacity and the characteristic temperature at which a phase transition occurs.

Thermoplastic polymers are material that are extensively used in our daily lives. As the physical properties of thermoplastic polymers depend strongly on temperature, polymers with different thermal behavior are of use in different practical applications.

In this lab course, thermal analysis of several common thermoplastic polymers, namely polypropylene, poly(methyl methacrylate) and poly(vinyl chloride) will be carried out by DSC. The tasks include the DSC measurement, the data analysis and the discussion of the experimental results.