


Methods, IMC, Mülhaupt

<h2 style="margin: 0;">Universal Mechanical Spectrometer</h2> <p style="margin: 0;"><i>Mechanical Spectroscopy, Rheometry</i></p>	<p>Model: <i>ARES TA Instruments</i> Unit and Room: <i>FMF, second floor, R02015</i> Responsible: <i>Dr. Yasmin Korth, 203 4783</i></p> <p>Further information: <i>http://www.fmf.uni-freiburg.de/service/servicegruppen/sg_rheol/service/index_html</i></p>
<p>Short Description:</p> <p>Universal Mechanical Spectrometer for linear and nonlinear viscoelastic properties of matter in wide Temperature (-100 °C to 300 °C) and frequency (0.001 to 100 Hz) ranges</p>	<p style="text-align: center;">Picture of the Equipment</p> 
<p>Available Experiments/Techniques:</p> <p>Dynamic moduli in oscillatory shear flow, viscositis in shear and extensional flow, all types of strain controlled experiments including relaxation modulus determination</p>	
<p>Special Equipment:</p> <p>add on to measure extensional viscosity of high viscous and high elastic materials</p>	
<p>Measurements on the equipment are currently done by:</p>	<p><input type="checkbox"/> Students <input checked="" type="checkbox"/> Students after Introduction <input checked="" type="checkbox"/> Students after extensive training <input checked="" type="checkbox"/> Trained scientific service personal</p>
<p>Recent Publications, where this instrument was important (optional): Give citation</p>	<p>Kühne M, Friedrich Chr. Nonlinear rheological properties of DBS fibre networks in polypropyleneoxide. <i>Rheol. Acta</i>, 48 (2009), 1-9116. Thermorheological properties of hydrogenated pseudorandom styrene-butadiene copolymers. <i>Macromolecules</i> 38 (2005), 7164-7173</p>
<p>Typical problems that may be solved with this instrument:</p>	<p><i>-Structure-rheological properties relationships for polymeric materials, including composites, ionic & molecular liquids near their Tgs.</i> <i>-Determination of characteristic viscositis and moduli of matter, relaxation time spectra</i></p>