


Methods, IMC, Mülhaupt

<p style="text-align: center;"><b>Universal Mechanical Spectrometer</b></p> <p style="text-align: center;"><i>Mechanical Spectroscopy, Rheometry</i></p>	<p>Model: <i>PhysikaMRC301, Anton Paar</i>          Unit and Room: <i>FMF, second floor, R02007</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, viscosities in shear and extensional flow, all types of stress controlled experiments including retardation function determination</p>		
<p>Special Equipment:</p> <p>add on to measure extensional viscosity of high viscous and high elastic materials          rheoscope equipment for visual investigation of flow induced structures          magneto-rheological tool          electro-rheological tool</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>C. Iacob, J. Sangoro, A. Serghei, S. Naumov, Y. Korth, J. Kärgler, C. Friedrich, and F. Kremer Universal scaling of charge transport in glass-forming ionic liquids, <i>Phys Chem Chem Phys</i> 11 (2009), 913-916.</p>	
<p>Typical problems that may be solved with this instrument:</p>	<p><i>-Structure-rheological properties relationships for polymeric materials, including composites, ionic &amp; molecular liquids.</i>  <i>-Determination of characteristic viscosities and moduli of matter, relaxation time spectra</i>  <i>-visualization of flow induced structures</i>  <i>-rheological properties as influenced by magnetical or electrical fields</i></p>	