Methods, IPC, Weber

<table>
<tr><td colspan="2">EPR-Spectroscopy

Electron Paramagnetic Resonance</td><td>Model:
Unit and Room:
Responsible:
Further information:</td><td>Bruker ESP380E
Physical Chemistry, 5th floor, R. 503b
Thomas Berthold (203-6212)
http://www.physchem.uni-freiburg.de/akweber/forschung/eprfolder/index.html</td></tr>
<tr><td colspan="3">Short Description:

Continous-wave EPR-Spectrometer operating at X-band (9–10 GHz) and Q-band (34–36 GHz) microwave frequencies.</td><td rowspan="2">Picture of the Equipment
  </td></tr>
<tr><td colspan="3">Available Experiments/Techniques:

continuous-wave EPR, including transient EPR (TREPR)</td></tr>
<tr><td colspan="4">Special Equipment:

Low temperature unit (cryostat/resonator) for temperature range from 5 to 300 K.
Optical sample excitation (pulsed Nd:YAG/OPO laser system: 430–800 nm, 6 ns pulse length, <10 Hz laser pulse repetition rate)
Goniometer for measurements of oriented samples (single crystals, liquid crystals)</td></tr>
<tr><td colspan="3">Measurements on the equipment are currently done by:</td><td>☐Students
☐Students after Introduction
☒Students after extensive training
☒Trained scientific service personal</td></tr>
<tr><td colspan="3">Recent Publications, where this instrument was important (optional): Give citation</td><td>Angew. Chem. Int. Ed. 48 (2009) 404–407</td></tr>
<tr><td colspan="3">Typical problems that may be solved with this instrument:</td><td>– identification of radicals
– electronic structure determination of paramagnetic centers (organic radicals, transition metal ions, defect centers, optically excited states (triplets, radical pairs))
– measurement of short-lived (>10 ns) paramagnetic intermediate states (triplet states, spin-polarized radical-pair states)</td></tr>
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