The joys of SAXS and other toys.

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The information content of an average SAXS pattern is in practice rather low. However, the combination with information derived from other techniques can turn SAXS into a very powerful tool especially when dealing with time-resolved data-sets.

The DUBBLE beam lines have specifically been designed to make such technique combinations possible. The obvious partner of SAXS is WAXS and these two techniques are routinely combined in a single experiment. However, also the combination of SAXS/WAXS and EXAFS has been implemented.

In the presentation I will show how combined SAXS/WAXS data sets in combination with neutron scattering and electron microscopy can unravel the story of crystallisation in a glass ceramic in full detail. The glass used is cordierite which is a low expansion, high shock resistance material used in car exhaust and electronic chip packaging. Even though this is a technologically relevant material the emphasis will be on the benefits of the technique combination for which cordierite is a textbook example.

The second part will deal with the combination of scattering and spectroscopic techniques on a catalytically important material. Here it will be discussed that no change still can mean a lot even outside the context of a political party program.