



Topical Research Meeting on Physics in Food Manufacturing

Session: Facilities

Unravelling the complex structure of food using neutron scattering

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Neutron beams produced by either spallation or reactor sources may seem somewhat remote from food processing science. In the past these sources have mainly been used to solve problems relating to condensed matter physics. However, in recent years there has been increasing use of these techniques to solve problems relating to soft matter/biological systems, which has caused interest in the use of these techniques in food related studies. Neutrons are an ideal probe for food manufacturing due to their high penetration and isotopic selectivity, which allows for both high flexibility in the samples examined and sample environment used, whilst also having the ability to determine the position and relative contribution of differing components in complex samples. Here, a brief introduction to neutron scattering facilities and techniques will be given followed by some examples of how neutron beam science has been used to examine complex structures like those encountered in food science.