
The Australian National Deuteration Facility for Structure Function Applications Using Neutrons

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There have been limited global initiatives in the field of molecular deuteration where the majority of these programs focus on biological deuteration of proteins and lipids, while more complex deuterated small molecules haven't been widely available to the neutron community. This has limited the experiments that can be performed, and formed a bottle-neck for advancing the applications of neutron scattering.

In this paper we will discuss the recent advancements and the impact of deuteration on the research outcomes achieved by using deuterated molecules produced by the National Deuteration Facility of the Australian Nuclear Science and Technology Organisation. Recent high-impact case studies in the fields of molecular electronics, structural biology, and biotechnology will be presented which reveal the exciting and diverse characterisation studies which are now available for the neutron community.