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Neutron experiments with virtual access

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Today's user community appreciates the active hand-on participation in neutron experiments and the scientific exchange at the facilities, which act as international crossings for experts of very different scientific fields. This user program, on the other hand, imposes relatively long missions and puts time constraints on participants and instrument schedules, which hinders flexible handling of experiments or rapid integration of hot scientific topics. In future, a major severe constraint to the present user access arises from changing legislation, which has to assure increasing security standards for protecting nuclear installations and/or for protecting against misappropriation of materials on-site. With NEVA we explore an alternative, virtual, access mode for neutron experiments. We merge existing instrument control software, computing and scientific software tools, state-of the art communication technology and modern 3D animation into a virtual interactive platform, accessible on-site or remotely. NEVA will be open source and platform independent and usable with different instrumental techniques at the different facilities. The software will be a modern web application written in fast, just-in- time compiled Javascript.

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