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Ultracold Neutron Sources World-Wide

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Ultracold neutrons (UCN) have been established as a valuable tool in precision fundamental neutron physics research since many years.

In order to perform precision measurements with UCN, strong and reliable UCN sources are needed, and such sources are being operated at several universities and research centers world-wide. The density of UCN provided to experiments at a UCN source is an important benchmark parameter. In 2015 we have performed UCN density measurements with a 'standard' UCN storage bottle of 30L volume at all operating UCN sources world-wide, in order to establish a standard procedure and setup for comparable UCN density measurements. Ultracold neutrons and their unique properties will be introduced. The published results of the 2015 UCN density measurement campaign will be presented, later measurements with the same setup at new and upgrades sources will be briefly discussed, as well as upcoming sources currently in construction or commissioning.

Primary author: RIES, Dieter (Johannes Gutenberg University Mainz)

Presenter: RIES, Dieter (Johannes Gutenberg University Mainz)

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