

Low Temperature ^3He - ^4He Dilution Refrigerators

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There are two ^3He - ^4He dilution refrigerators with base temperatures of 5 mK and a variety of vacuum tails and superconducting magnets (up to 12 tesla) that allow different experimental geometries. One of the refrigerators has top-loading capability which permits a return to base temperature within just a few hours after a change of specimen. The refrigerators are usually employed in conjunction with low temperature radiative detection techniques. However, they provide a stable platform for any other very low temperature experiment that might be conceived.

They currently provide very low temperature platforms for:

- low temperature nuclear orientation (LTNO) to 5 mK
- nuclear magnetic resonance on oriented nuclei (NMRON) to 5 mK
- ^{57}Fe -Mössbauer spectroscopy to 10 mK
- pulsed electron paramagnetic resonance (EPR) to 50 mK

