

Abstract Submitted
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The NHMFL Pulsed Field Facility at Los Alamos National Lab¹

CHUCK MIELKE, Los Alamos National Laboratory - NHMFL-PFF — National user facilities provide scientists and industrial development companies with access to specialized experimental capabilities to enable development of materials and solve long standing technical problems. Magnetic fields have become an indispensable tool for researchers to better understand and manipulate ground states of electronic materials. As magnetic field intensities are increased the quantum nature of these materials become exponentially more likely to be observed and this is but one of the drivers to go further in high magnetic field generation. At the Los Alamos branch of the National High Magnetic Field Laboratory we have significant efforts in extremely high magnetic field generation and experimentation. In direct opposition with our efforts are the tremendous electro-mechanical forces exerted on our magnets and the electromagnetic interference that couples to the sample under study and the diagnostic equipment. Challenges in magnetic field generation and research will be presented. Various methods of pulsed high magnetic field generation and experimentation capabilities will be reviewed, including our recent “World Record” for the highest non-destructive magnetic field.

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Chuck Mielke
Los Alamos National Laboratory - NHMFL-PFF

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