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a. REPORT UU	b. ABSTRACT UU	c. THIS PAGE UU			19b. TELEPHONE NUMBER 817-272-2815

**RPPR Final Report**  
as of 01-Mar-2018

Agency Code:

Proposal Number: 68414MSRIP

**Agreement Number: W911NF-16-1-0164**

**INVESTIGATOR(S):**

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EIN: 756000121

**Report Date:** 17-Jan-2018

Date Received: 05-Jan-2018

**Final Report** for Period Beginning 18-Apr-2016 and Ending 17-Oct-2017

**Title:** Acquisition of a MPMS EverCool System for Characterization of Nanoscale Magnets

**Begin Performance Period:** 18-Apr-2016

**End Performance Period:** 17-Oct-2017

**Report Term:** 0-Other

Submitted By: Ph.D Ping Liu

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Phone: (817) 272-2815

**Distribution Statement:** 1-Approved for public release; distribution is unlimited.

**STEM Degrees:** 1

**STEM Participants:** 2

**Major Goals:** This grant was for acquisition of a physical property measurement system from Quantum Design Company, California.

**Accomplishments:** The rapid increase of liquid helium cost has led to a reduction in our research and innovation capacity in the past decade. We appreciate DURIP funding for providing us to purchase a recycled magnetometer. The newly installed PPMS DynaCool employs a unique He-based gas flow control system that gives rapid temperature cycling and accurate temperature and magnetic field control.

Major parameters of the measurements:

Temperature range of 1.8 K – 1000 K

9 Tesla max. field

VSM and ACMS sensitivity < 10<sup>-6</sup> emu with 1 sec averaging

AC Resistivity option available.

The instrument currently is being used to study the magnetic and electric properties of various materials.

**Training Opportunities:** Nothing to Report

**Results Dissemination:** Nothing to Report

**Honors and Awards:** Nothing to Report

**Protocol Activity Status:**

**Technology Transfer:** Nothing to Report

**PARTICIPANTS:**

**Participant Type:** Co-Investigator

**Participant:** Jeetikanta Mohapatra

**Person Months Worked:** 6.00

**Funding Support:**

Project Contribution:

International Collaboration:

International Travel:

National Academy Member: N

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Other Collaborators:

## Final Report

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