



# Library Indian Institute of Science Education and Research Mohali



DSpace@IISERMohali / Thesis & Dissertation / Master of Science / MS-15

Please use this identifier to cite or link to this item: <http://hdl.handle.net/123456789/1479>

|                         |  |
|-------------------------|--|
| Title:                  | Investigation Of Magnetic Ground State of Cu <sub>2</sub> IrO <sub>3</sub>   |
| Authors:                | <a href="#">Sakrikar, Piyush</a>   |
| Keywords:               | Magnetic<br>Cu <sub>2</sub> IrO <sub>3</sub><br>isostructural<br>Kitaev's QSL.   |
| Issue Date:             | May-2020   |
| Publisher:              | IISERM   |
| Abstract:               | There are conflicting reports in the literature regarding the magnetic ground state of the frustrated Kitaev material Cu <sub>2</sub> IrO <sub>3</sub> . While one group reported spin-glass (SG) features in susceptibility measurements [ 1 ], another group showed an absence of SG and only spin liquid behavior [ 2 ]. In this thesis we aim to understand the influence of synthesis conditions on the magnetic ground state of Cu <sub>2</sub> IrO <sub>3</sub> with the eventual aim to be able to establish a recipe for synthesizing Cu <sub>2</sub> IrO <sub>3</sub> hosting the quantum spin liquid state. Towards this goal, we have synthesized polycrystalline samples of Cu <sub>2</sub> IrO <sub>3</sub> with different synthesis conditions and studied their structural and magnetic properties. We also synthesized the non-magnetic isostructural material Cu <sub>2</sub> [Li <sub>1/3</sub> Sn <sub>1/3</sub> ]O <sub>2</sub> with an aim to extract the magnetic contribution to the heat capacity of Cu <sub>2</sub> IrO <sub>3</sub> and to check for its proximity to Kitaev's QSL. |
| URI:                    | <a href="http://hdl.handle.net/123456789/1479">http://hdl.handle.net/123456789/1479</a>  |
| Appears in Collections: | <a href="#">MS-15</a>  |

## Files in This Item:

| File                        | Size    | Format    |                           |
|-----------------------------|---------|-----------|---------------------------|
| <a href="#">MS15096.pdf</a> | 3.31 MB | Adobe PDF | <a href="#">View/Open</a> |

Show full item record



Items in DSpace are protected by copyright, with all rights reserved, unless otherwise indicated.