



Contribution ID: 13

Type: **Contributed Oral**

C3Or2B-02: A Retrospective on how Cryostats have changed with Cryostat Use and the Cooling Methods used to keep Superconducting Magnets and Devices Cold

Wednesday 12 July 2023 11:30 (15 minutes)

Prior to the invention of the vacuum flask by James Dewar in 1895, cryogenic temperatures below 100 K could not be maintained for very long. The development of the modern cryostat was an extension of the basic Dewar vacuum flask. The design of the cryostat and its insulation system is a function of the cryostat's intended use. The type of refrigeration available also influenced the development of the cryostat and the insulation systems that were part of that cryostat. In recent years, the availability and the cost of helium has been a significant factor in cryostat design and the methods used to cool and cool-down cryostats. This paper will explore the historical development of today's cryostats and how they may be tied to the source of cryogenic cooling. This paper will focus on cryostats that are subject to the force of gravity or centrifugal forces.

Author: Dr GREEN, Michael (Lawrence Berkeley Laboratory)

Presenter: Dr GREEN, Michael (Lawrence Berkeley Laboratory)

Session Classification: C3Or2B: Superconducting V: Accelerator Magnet Systems