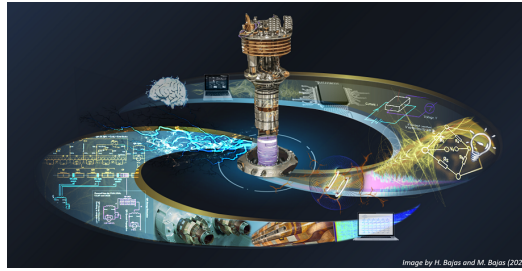


Lectures on Superconducting Magnet Test Stands, Magnet Protections and Diagnostics (as integral part of SMTF & IDSM Workshops)



Contribution ID: 4

Type: **not specified**

Protection against excessive pressure in He cryostats

Wednesday 31 May 2023 17:40 (1 hour)

About the lecture:

«Protection against excessive pressure in He Cryostats», aims to raise awareness of the risk of accidental overpressure in cryogenic devices. The main scenarios leading to this accident will be discussed, with particular emphasis on the breaking of the isolation vacuum. It is imperative that cryogenic equipment must be equipped with safety devices such as relief valves, rupture bursting discs, and that they are properly sized. The main points of the sizing method will be discussed and the differences with the ISO 21013-3 standard will be clearly explained.

About the speaker:

“I began my career at CEA as an instrumentation engineer in a thermohydraulic installation representing a model of a PWR (Pressurized Water Reactor) within the Nuclear Energy Department in Grenoble. Later, in the same department, I was in charge of a laboratory, specifically the mechanical and thermal design office.

In 2001, I changed departments to work in the field of cryogenics, taking on the role of project engineer in the design and development of cryostats. I also became the head of the design office in 2009 until the end of 2017.

At the same time, since 2006, I have been involved in cryogenic safety. I operated an experimental device that allowed quantifying the heat flux in supercritical helium following a vacuum rupture.

Alongside other colleagues, I contributed to the writing of a document published by “Techniques de l’Ingénieur” on the design of safety components TI 9814 and participated in the development of an EU standard (EU Prn17527) related to helium cryostats, where design aspects are extensively discussed.”

Presenter: PONCET, Jean-Marc (CEA)