



Département des Accélérateurs, de Cryogénie et de Magnétisme

Séminaires du DACM

Jeudi 24/06/2010, 11:00

Bat 130, pce 52 -- 7 à table + 3, CEA Paris-Saclay

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Development of high-field cryogen-free superconducting magnets and high-strength Nb₃Sn superconducting wires

The author had contributed the development of the 18-T cryogen-free superconducting magnet and high-strength Nb₃Sn superconducting wires in High Field Lab., Tohoku University. The 18-T cryogen-free superconducting magnet consists of NbTi, Nb₃Sn, and Bi2223 coils. The most important keyword of the development is 'high-strength.' The Bi2223 coil was fabricated by a stainless steel co-winding technique. CuNi-NbTi reinforced Nb₃Sn wire was employed for Nb₃Sn coil to overcome the huge electromagnetic hoop stress of 234 MPa. Some topics of high-strength Nb₃Sn wires and a future upgrade plan of the 18-T cryogen-free superconducting magnet will be introduced.

NB. Etant donnée la présentation de résultats non publiés au cours de ce séminaire, Gen NISHIJIMA a préféré que le support 'Power Point' ne soit mis en ligne sur l'intranet Irfu.

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