

News from 28 July 2003 23:00

Towards mass production of superconducting wires

Sumitomo Electric Industries Ltd announced on July 22nd the achievement of high-speed production of high transition temperature superconducting wire rods. This result has been obtained in particular by using Holmium, the rare earth kind of high temperature (liquid nitrogen temperature) superconducting material. Sumitomo applies its know-how in vapour laser deposition to manufacture thin film high current density Holmium-based superconducting material HoBCO ($\text{HoBa}_2\text{Cu}_3\text{O}_7$ d). According to the company, holmium superconducting wire has a current density approximately 100 times that of bismuth based wire and superconductivity quality in kept even in a magnetic field. Using SuperPowerTM metal for the one centimetre-wide base-plate, Sumitomo claims 2.2 MA/cm² cross sectional area critical current density at liquid nitrogen temperature for a wire rod manufactured at a speed of 15 m/h. The superconducting material is deposited as a membrane about 1 micron thick.

Sumitomo plans to market the material in three years for manufacturing electric transmission lines that are planned on the American power grids.

<http://www.sei.co.jp/index.ja.html>

Progress also announced for bismuth-type superconducting wires

According to the The Nikkei Business Daily Friday 25th Friday edition, Showa Electric Wire and Cable and Chubu Electric Power company have made 100 meters of the bismuth type superconducting wire with a current density of 1.3 MA/cm². The process involves packing a silver tube with a powder of bismuth-type superconducting material then coiling the tube into a spiral and applying uniform heating. The objective of the two companies is to manufacture 300 meters of wire with current density more than 1.5 MA/cm² before 2005, for applications in low-loss superconducting power storage systems.

For further information about our products and services, watch, consulting, publishing, visit our web site or contact us:

Mail : 38 rue Dunois 75013 Paris France ☞ Ph.: +33 (0) 609058754 ☞ Fax : +33 (0) 156729339 ☞ e-mail : admin@2E2D.info