MAR10-2009-020127

Abstract for an Invited Paper for the MAR10 Meeting of the American Physical Society

Struggle to find higher-Tc superconductors-No night without dawn

JUN AKIMITSU, Department of Physics and Mathematics, Aoyama-Gakuin University, Fuchinobe, Sagamihara, Kanagawa 229-8558, Japan

Superconductors can be categorized into 3 groups depending on its Tc's ; Matsu (Pines: Tc>160K), Také Bamboo: 150K>Tc>77K) and Umé (Umé blossoms: 77K > Tc). At present stage, no "Matsu" superconductor exists, and only Cu-oxide superconductors are realized as a "Také" group. Another all superconductors including MgB₂, Fe-pnictide etc belong to the "Umé" group. Therefore, our next target is to find a new "Také" compound, new non Cu-oxide superconductor above 77K. We have many approaches to find higher-Tc superconductors within the conventional synthesis conditions. In this conference, we review a personal struggle-successes and disappointments- how to find the higher-Tc material.