

# Yamaguchi LAB.

## [Extractive Metallurgy and Resource Recovery]

International Research Center for Sustainable Materials

<http://susmat.iis.u-tokyo.ac.jp>

Extractive Metallurgy and Resource Recovery

### Extractive Metallurgy of Non-Ferrous Metals

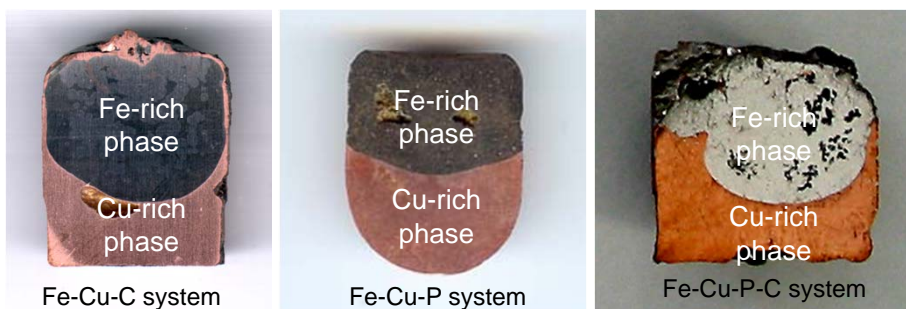
#### Recovery Process of Rare Metals in Non-Ferrous Extractive Metallurgy

In non-ferrous smelting process the base metals of copper, lead and zinc as well as rare metals are produced from secondary materials such as scrap metals, alloys and residues.

The valuable metals that result from the refining process provide the raw materials for a wide range of application possibilities in various fields.

**We suggest a new and effective recovery process of rare metals in the non-ferrous extractive metallurgy.**

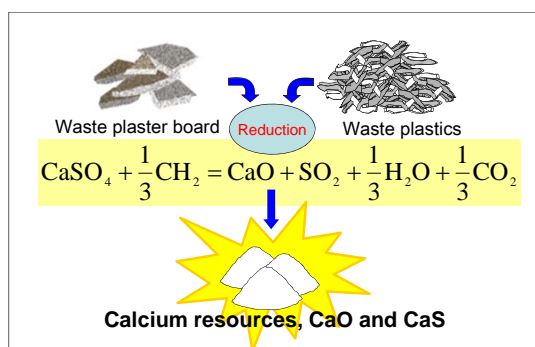
- ◆ Copper enrichment based on liquid phase separations.
- ◆ Recycling of platinum group metals for used auto catalyst.
- ◆ Recovery of calcium resources from waste plaster board with waste plastics.
- ◆ High temperature calorimetry.



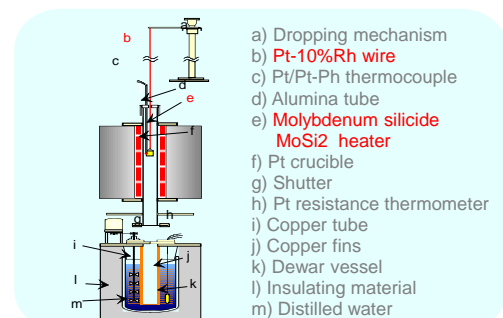
Copper enrichment of low grade copper scraps



New and efficient process for recovery of platinum group metals.



Recovery process of CaO and CaS from waste plaster board using waste plastics



High temperature drop calorimeter