

講演会のご案内

G-COEプログラム「構造・機能先進材料デザイン教育研究拠点」の教育研究プログラムの一環として、韓国での金属間化合物研究の第一人者である韓国KITのDr. M.-H. Oh教授をお招きし、以下の層状TiAl化合物に関する講演会を開催いたします。よろしくご参集ください。特に博士後期課程学生、若手研究者の方の積極的な参加をお願いいたします。

特別講演会 (1/29 (火) 14:00~15:00、GSEコモン・イースト910号室にて)

「The Microstructure and Mechanical Properties of Ti-rich TiAl Intermetallic Compounds with the Lamellar Microstructure - Historical Overview」

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Abstract : Extensive progress and improvements in two-phase TiAl intermetallic compounds have been made in the last twenty years. In particular, our understanding on relationships between the microstructure and mechanical properties has been substantially deepened. Based on these achievements, several engineering two-phase TiAl alloys in both duplex and fully lamellar forms with room-temperature ductility up to 2~4% and improved strength have been developed. Significant progress has also been made towards clarifying the basic mechanical properties of the gamma and alpha-2 phases which comprise the two-phase alloys in lamellar form. However, the lamellar microstructure alloys are still poor in ductility, although they are beneficial for toughness and high-temperature strength. The two-phase TiAl alloys with the lamellar microstructure are of interest and important because they are so common and persistent, not only under as-cast conditions but also after heat treatment. Therefore, more work is needed to achieve an improved balance of strength and ductility in the lamellar form. In this presentation, recent progress in the microstructure, deformation and fracture behavior, alloying effects and environmental embrittlement in two-phase TiAl alloys together with some attempts at their structural applications will be tentatively reviewed and discussed by demonstrating our recent research results which have been obtained by using the Ti-rich TiAl alloys with the lamellar microstructure in single-crystal-like PST(Polysynthetically Twinned), DS(Directionally Solidified) and Polycrystalline forms.

主催：グローバルCOEプログラム「構造・機能先進材料デザイン教育研究拠点」
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