



グローバルCOE講演会

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場所： 工学部物理系校舎 112講義室
(吉田キャンパス)

Alloy Surface Engineering by Inward Diffusion of Interstitial Solutes

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Abstract

The surface of structural alloys can be effectively hardened by inward diffusion of interstitial solutes, particularly carbon and nitrogen. However, low solubility limits and consequent precipitation of carbides or nitrides often have an adverse effect on the properties of the resulting “case” (hard shell). This presentation will report on new approaches that overcome these limitations and enable impressive improvements of alloy surface hardness, wear resistance, fatigue life, and corrosion resistance. After introducing the concept and physical principles, examples of different alloys will demonstrate the scientific challenges and the technological potential of this approach.

連絡先： 材料工学専攻 大場史康（内線 5435）