

Fig. 4-18 90T在經過 $1500^{\circ}\text{C}/6\text{hr}/\text{Ar}$ 熱處理後之(a) $\text{Y}_2\text{Ti}_2\text{O}_7$ 與 $\alpha\text{-Ti}$ 共存之明視野影像(BFI);(b) $\text{Y}_2\text{Ti}_2\text{O}_7$ 之EDS分析光譜;(c) $\alpha\text{-Ti}$ 之EDS分析光譜 ;(d) $\text{Y}_2\text{Ti}_2\text{O}_7$ 之 SADP, Z. A. = $[111]$; (e) $\text{Y}_2\text{Ti}_2\text{O}_7$ 之 SADP, Z. A. = $[011]$; (f) $\alpha\text{-Ti}$ 之SADP, Z. A. = $[01\bar{1}1]$ 。

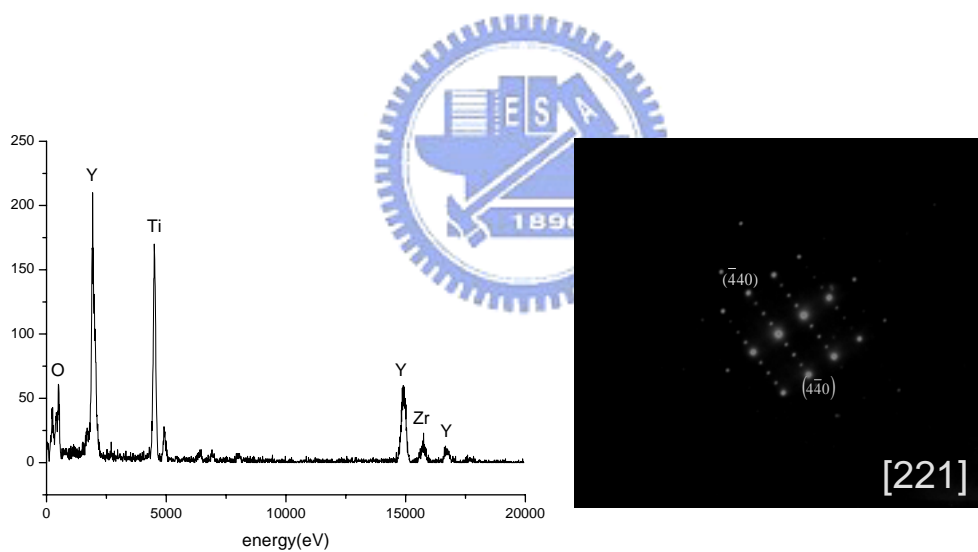
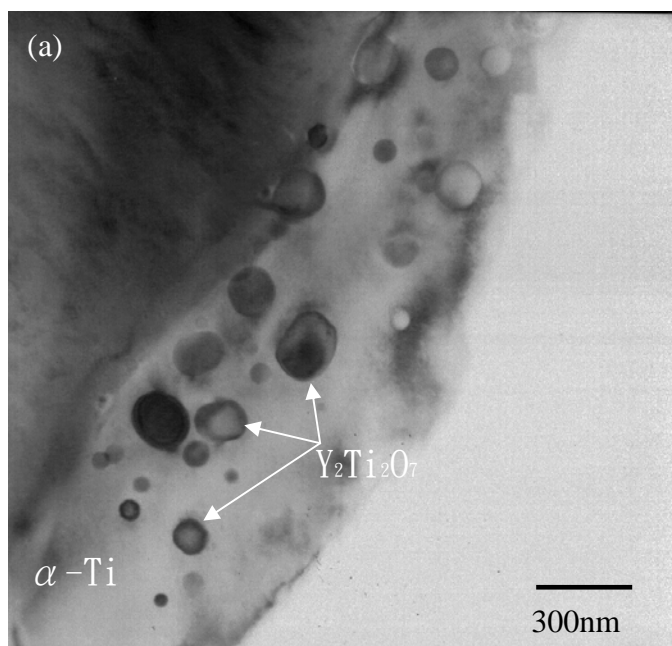


Fig. 4.19 90T在經過 $1500^{\circ}\text{C}/6\text{hr}/\text{Ar}$ 熱處理後之(a) $\text{Y}_2\text{Ti}_2\text{O}_7$ 與 $\alpha\text{-Ti}$ 共存之明視野影像(BFI);(b) $\text{Y}_2\text{Ti}_2\text{O}_7$ 之EDS分析光譜;(b) $\text{Y}_2\text{Ti}_2\text{O}_7$ 之SADP, Z. A. = $[221]$ 。

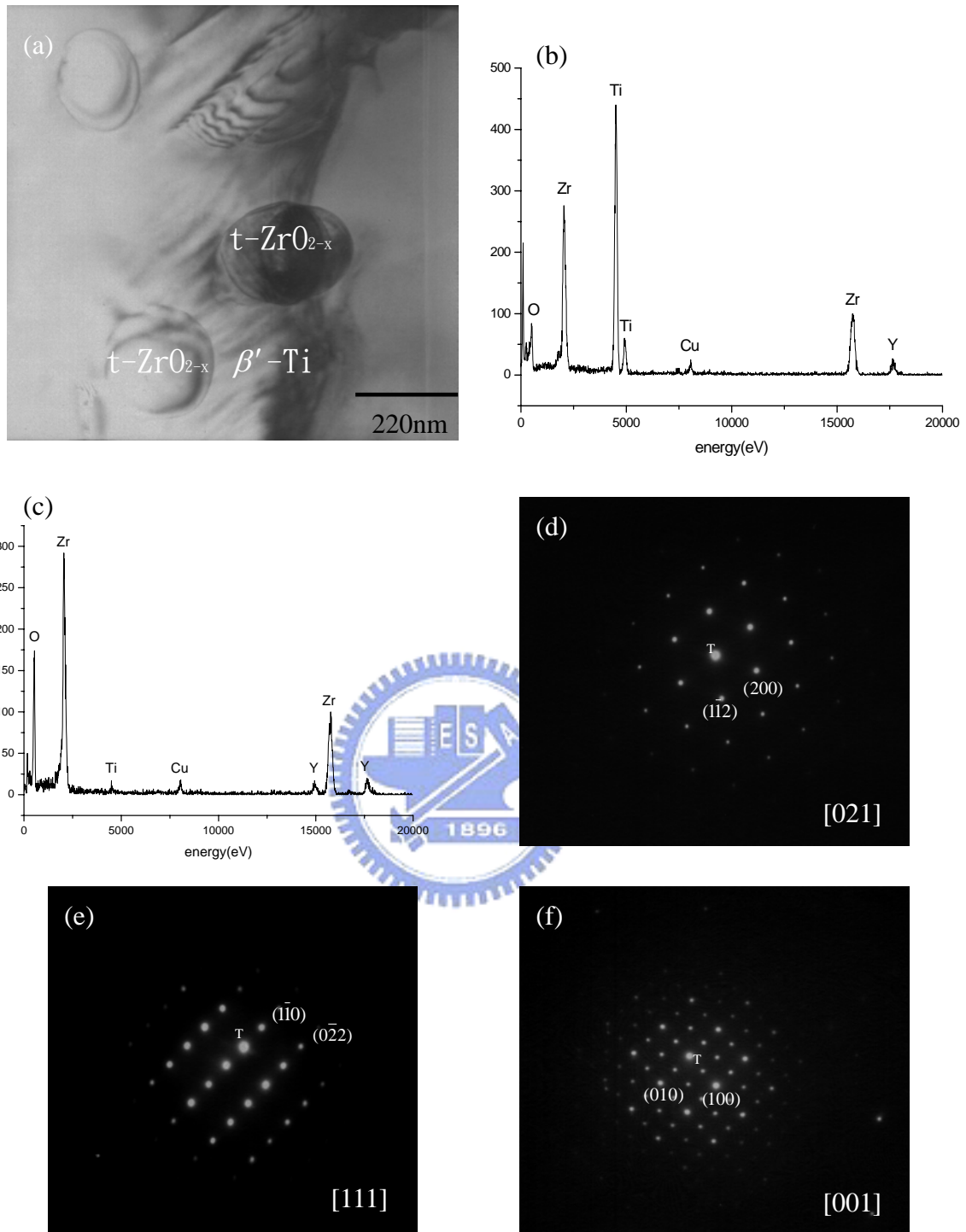


Fig. 4-20 90T在經過 1400°C/6hr/Ar熱處理後之(a) β' -Ti與 $t\text{-ZrO}_{2-x}$ 共存之明視野影像(BFI);(b) β' -Ti之EDS分析光譜;(c) $t\text{-ZrO}_{2-x}$ 之EDS分析光譜(d) β' -Ti之SADP, Z. A. = [021];(e) β' -Ti之SADP, Z. A. = [111];(f) $t\text{-ZrO}_{2-x}$ 之SADP, Z. A. = [001]。

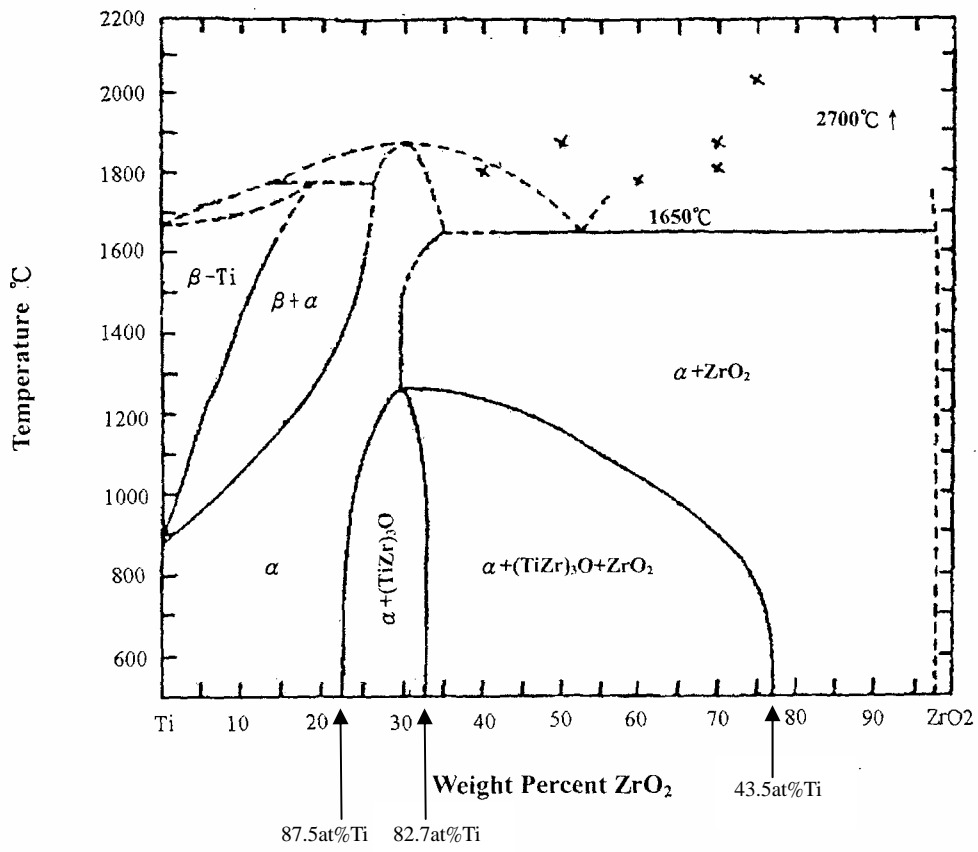


Fig. 4-21 Domagala et al. 所提出Ti-ZrO₂相圖

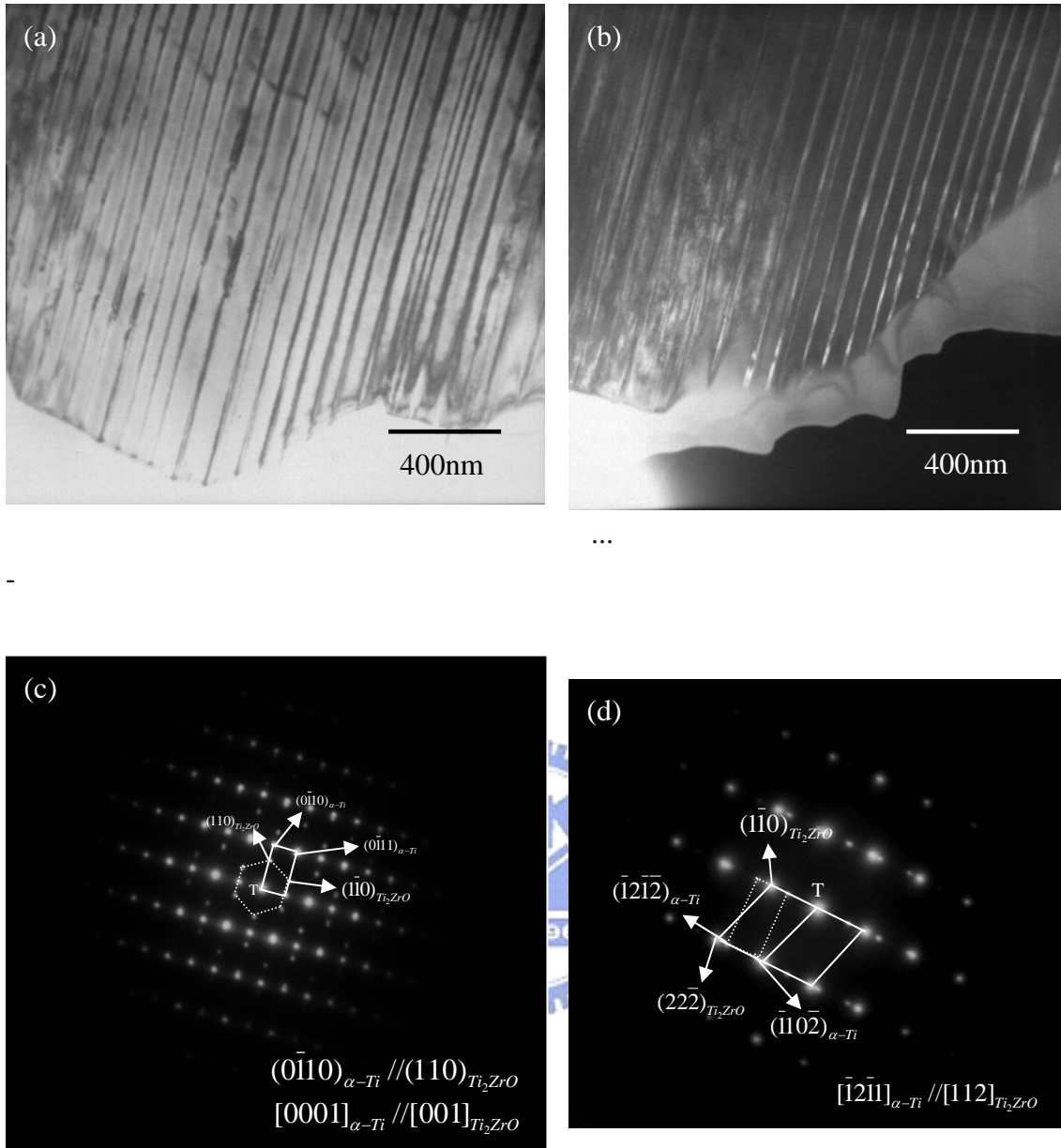


Fig. 4-22 90T在經過 $1400^{\circ}\text{C}/6\text{hr}/\text{Ar}$ 熱處理後之(a) Ti_2ZrO 自 $\alpha\text{-Ti}$ 基地中析出之明視野影像(BFI);(b) Ti_2ZrO 自 $\alpha\text{-Ti}$ 基地中析出之暗視野影像(DFI);(c) Ti_2ZrO 自 $\alpha\text{-Ti}$ 基地中析出之SADP, Z. A. = $[0001]_{\alpha\text{-Ti}} // [001]_{\text{Ti}_2\text{ZrO}}$; (d) Ti_2ZrO 自 $\alpha\text{-Ti}$ 基地中析出之SADP, Z. A. = $[\bar{1}2\bar{1}1]_{\alpha\text{-Ti}} // [112]_{\text{Ti}_2\text{ZrO}}$

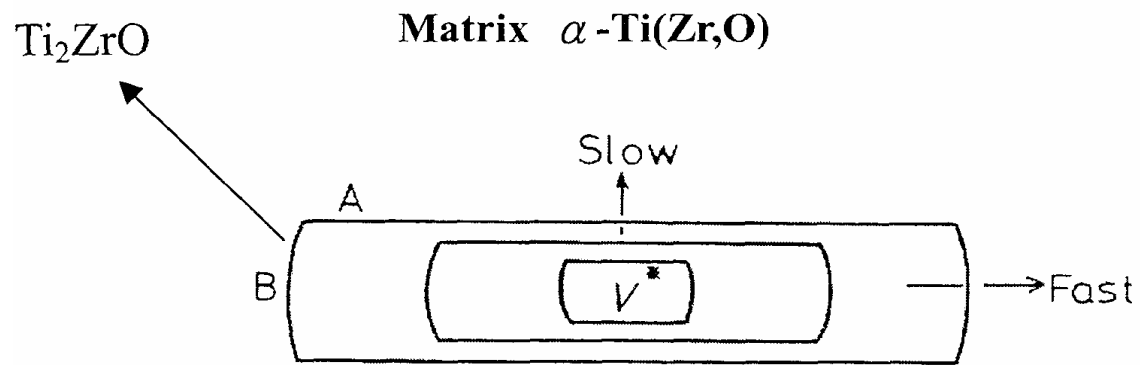


Fig. 4-23 不同接合介面之析出成長形狀

(A) 低遷移率之半整合性介面 (low-mobility semicoherent interfaces)

(B) 高遷移率之非整合性介面 (high-mobility incoherent interfaces)