SPring-8 ワークショップ「触媒と放射光利用」
SPring-8 触媒評価研究会（第 9 回）
2005 年 11 月 14 日 13:40 – 14:20
丸ビルコンファレンススクエア 8 階 Room 4

化学状態を「分光」する触媒サイト構造解析の最前線

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高活性で高選択的な触媒についての最大の関心事は、活性サイトを特定し、その反応性軌道が反応分子をいかに活性化するかの核心だろう。高輝度放射光を利用すれば、サイトの化学状態を「分光」するが如く in situ 構造解析が行なえる。摂動に応答する触媒反応性軌道からの蛍光線を分光し、表面触媒反応遷移状態に迫る。

高輝度放射光（SPring-8）と環境触媒

高輝度・高感度を生かすためには

(1) 活性サイトについての厳密な分析（ピーク分離、微量成分抽出）

(2) 高エネルギー領域（> 20 keV）での X 線利用分析

(3) 高輝度放射光（SPring-8）ならではの、状態や反応性軌道を識別した活性サイト分析

高輝度放射光（SPring-8）と環境触媒

環境触媒について分析するためには

(1)複雑な反応条件でのその場（in situ）分析

このワークショップで御紹介する内容

環境触媒系

選択酸化用V-TiO_2

選択水素化用Pt-Sn触媒

環境中微量有毒Pb, As
除去用層状化合物

高輝度放射光を生かした技術

ピーク分離、微量成分抽出

高エネルギー領域（> 20 keV ）
での分析

高輝度放射光（SPring-8）ならではの、
状態や反応性軌道を識別した
活性サイト分析

複雑な環境反応条件でのその場分析

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