

||||| 特集：微小重力研究における放射光実験 |||||  
(解説)

## 放射光を用いた X 線マイクロトモグラフィーと その隕石・宇宙塵への応用

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### **X-ray Microtomography Using Synchrotron Radiation and its Application to Meteorites and Cosmic Dust**

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#### **Abstract**

A projection microtomographic system using synchrotron radiation with the spatial resolution of about 1  $\mu\text{m}$  has been developed at SPring-8. The quantitative relation between CT-values and linear attenuation coefficients of materials has been obtained empirically in this system. Materials (minerals) can be estimated from the CT values using this relation. The relation also made possible to obtain three-dimensional concentration distributions of some elements by subtraction method. The microtomographic system was applied to extraterrestrial samples, such as meteorites and cosmic dust. This system is also useful to samples those will be returned by spacecrafts in the Hayabusa mission by JAXA and Stardust mission by NASA.