商品化CNT复合材料的测定 I

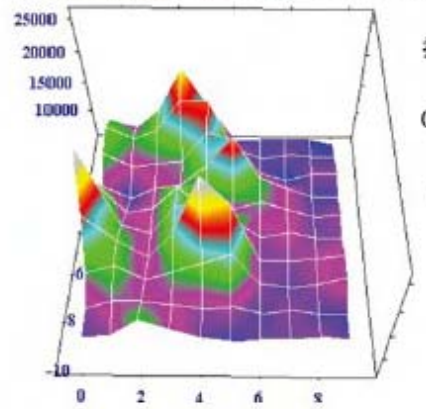
Measurement of commercially available CNT composite:#1

由树脂与CNT组成的复合材料，具有防止带电、屏蔽电磁干扰（EMI）等新功能，因此这种复合材料开始商品化。本文介绍了评价CNT分散程度的测定实例。

New functional materials which have the function of antistatic and EMI(Electro Magnetic Interference) shield by CNT-composite polymer are on shelves. Evaluation results of dispersion on them are shown below.

通过拉曼光谱测定PC类高分子材料中的CNT的分布情况

Raman map of CNT dispersion in Polycarbonate(PC)-related polymeric materials



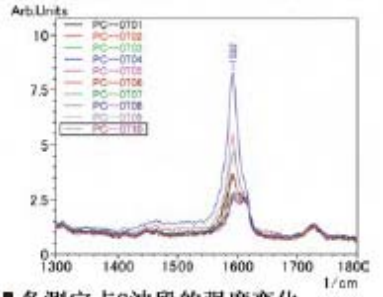
拉曼光谱（Ex. 532nm）

G波段（1520-1670cm^{-1}）的谱图

（1μmø；10×10=100pt）

左图（1~10点）为拉曼光谱的重叠

Orverlay of Raman spectra from 1 to 10 point of map

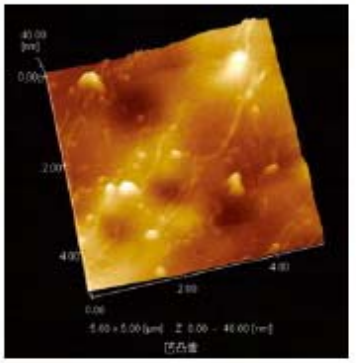


各测定点G波段的强度变化

Comparison of Raman spectra by intensity in the G-band region of each analytical point

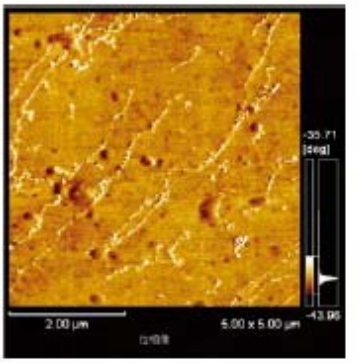
通过探针显微镜观察PC类高分子材料中的CNT的分布情况

Observation of dispersion state of CNT in Polycarbonate(PC)-related polymeric materials by SPM technique



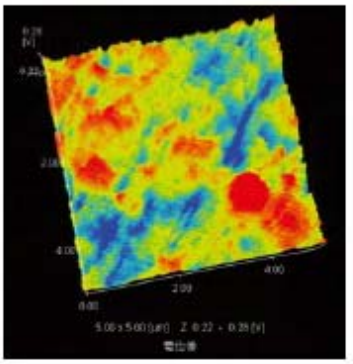
凹凸像 5μm×5μm

Topographic image



相位像5μm×5μm

Phase image

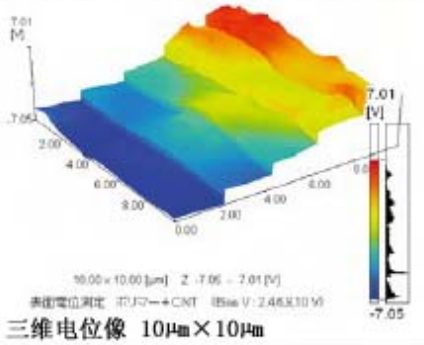


电位像 5μm×5μm 可知有CNT存在的部位电位低

Eelectric potential image
Eelectric potential on the area where CNTs are found is low.

由下至上＋2V、＋4V、…10V；分5阶段使偏压电压产生变化。

Change the voltage on 5-point basis from bottom up: +2V, +4V...+10V



三维电位像 10μm×10μm

Electric potential 3D image