

## 銀ナノワイヤの構造解析

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Structural Analysis of Silver Nanowires (<sup>1</sup>Showa Denko K.K.) ○Yasunao Miyamura,<sup>1</sup> Yasushi Kadowaki,<sup>1</sup> Kuniaki Yamatake,<sup>1</sup> Masanao Hara,<sup>1</sup> Shigeru Yamaki,<sup>1</sup> Hideki Ohata<sup>1</sup>

Silver nanowires (AgNWs) possess both transparency and conductivity, which are indispensable traits for electric materials such as transparent conductive films (TCF). For these applications, precise control of the alignment of AgNW in suspension is one of the most crucial keys to the fabrication of TCF, since alignment of AgNWs can induce anisotropic electric and photonic characteristics. During the investigation of AgNWs' alignments, we have found when dispersed in water, AgNWs spontaneously form anisotropic phase in suspension so that long axis of AgNWs direct perpendicular to the ground. We will present structural analysis of AgNW forming anisotropic phase in aqueous suspension, which can be fixed within gel and polymer matrices.

**Keywords :** Silver Nanowires, AgNW

銀ナノワイヤ (AgNW) は透明導電フィルム (TCF) 作製に必要な透明性と導電性を有する電子材料である。TCF 作製においては AgNW の配向に伴い異方的電気特性および異方的光学特性が発現するため、精密な配向制御が重要となる。こうした配向検討の過程において我々は AgNW が水分散液中で自発的に鉛直配向し異方相を形成することを明らかにした。本報告では水分散液中およびゲル・ポリマー中に固定化された配向 AgNW 構造について報告する。

