

Electrodeposition of metal film in a two-liquid-phase interface consisting of aqueous and organic solutions

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Outline:

Electrochemical technique serves an effective method for producing functional powder or thin-film materials. Therefore, electrolytic deposition is applied for a modern production process of semiconductor etc. For instance, a metallic deposit like a flower can be produced under a certain condition. The deposit is called as the “Metal Leaves” because its planar pattern deposited along an interface is similar to a leaf of tree. The purpose of this class is the understanding of the factors that governs the pattern of the Metal Leaves by changing several parameters in electrolysis. Learning of surface energy and electrochemical measurement through the production of the Metal Leaves is also included.

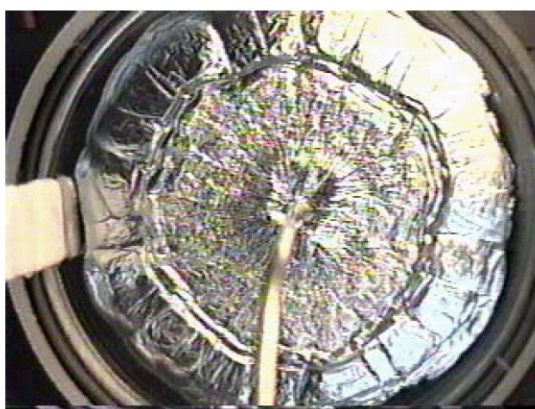


Fig. 1 Metal Leaves produced in the optimum conditions

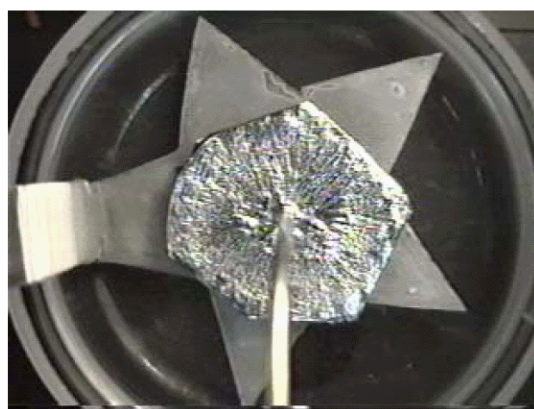


Fig. 2 Metal Leaves produced with a starlike electrode.