

Langmuir-Blodgett Films and their Applications

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Many organic substances such as fatty acids, alcohols, chlorophylls, proteins spread into insoluble monomolecular layers on water surface. Irving Langmuir and Katherine Blodgett developed a fascinating technique of 'building up' multi-layer films on solid substrates by raising the latter repeatedly across the monolayer covered water surface. With this technique a new field in thin film investigation opened up. Unlike the films prepared by conventional methods, these films have attractive features of controllable thickness down to a monolayer~2 nm and the possibility of obtaining relatively ordered form without voids and inhomogeneities.

The procedure and apparatus used for the preparation of some of these films and their properties are described. Recent developments in the deposition technique and the possible uses of these films in electronic devices and in solar energy conversion are also discussed in this review.