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The invention relates to the field of obtaining thin films of oxide semiconductors, particularly of In₂O₃.

The method includes deposition of films by spray pyrolysis at the temperature of 450...550°C from aqueous InCl₃ solutions with the metal salt concentration in the solution exceeding 0.2M with subsequent annealing in the neutral or oxygen-containing atmosphere at a temperature not less than 1000°C.

The result of the invention consists in obtaining films with high texture in the direction of (100) having a thickness of 200...3000 nm with large size of the crystallographic plane surface of crystallites.

Claims: 1 Fig.: 3