The invention relates to the field of semiconductor physics and may be used for obtaining of thin semiconductor layers, in particular of thin layers of oxide semiconductors.

Summary of the invention consists in that the process includes the preliminary obtaining by hydrolytic way of the aqueous suspension of semiconductor oxide and pulverization thereof onto the heated substrate. The pulverization is carried out inside the electric furnace, using oxygen in the capacity of disperse gas, the deposition of the suspension being realized onto the substrate, placed onto a rotary support, with the simultaneous air removal outside the furnace.

The result of the invention consists in obtaining uniform in thickness thin layers with identical electric and optical parameters along the whole surface.

Claims: 1 Fig.: 1