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The invention relates to a process for producing a luminiferous composite based on amorphous chalcogenide semiconductor  $\text{As}_2\text{S}_3$  and coordinative compound of europium(III), in the form of thin films and optical fibers, that can be used in the optoelectronic industry, namely for the manufacture of photoluminescent devices, for recording, transmission and amplification of optical information.

The process, according to the invention, comprises the separate dissolution of semiconductor  $\text{As}_2\text{S}_3$  and coordinative compound  $\text{Eu}(\text{TTA})_2(\text{Ph}_3\text{PO})_2\text{NO}_3$  in propylamine or monoethanolamine at a temperature of  $18\dots 25^\circ\text{C}$ , for  $4\dots 20$  hours, mixing of these solutions to produce a composite in the following mass ratio, %:  $\text{Eu}(\text{TTA})_2(\text{Ph}_3\text{PO})_2\text{NO}_3$  –  $2.0\dots 20.0$ ,  $\text{As}_2\text{S}_3$  – the rest, and homogenization at a temperature  $18\dots 25^\circ\text{C}$  and a normal atmospheric pressure, for  $20\dots 30$  hours. The resulting liquid mixture is applied on a substrate and dried at a temperature of  $45\dots 50^\circ\text{C}$  for  $3\dots 5$  hours.

Claims: 1

Fig.: 5