

Porous functional thin films prepared by oblique angle deposition

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I will provide an overview of the thin film developments in which our research group at the Institute of Materials Science of Seville has participated over the past 10 to 15 years. They refer mainly (but not exclusively) to porous thin films prepared by physical vapor deposition methods (electron beam evaporation and magnetron sputtering) with oblique angle deposition geometry, which have been considered for various functional applications. I will briefly comment on some devices requiring compact films—such as dichroic filters, ophthalmic lenses [1], and scintillators [2]— to continue with other systems for which porous films are more suitable such as electrochromic coatings [3], refractometric sensors for liquids and vapours [4], and electrodes for solid oxide fuel cells [5] and water electrolyzers [6]. I will describe the details of the film manufacturing protocols, as well as provide a brief summary of their performance in the specific functionality considered.

References

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