

Zn and ZnO opals for PBG applications

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Metals are increasingly gaining terrain in the area of PBG. Thus, methods to produce metallic structures compatible with well-known synthetic routes employed for dielectrics are nowadays demanded.

Zn is here taken as an example and the growth of the metal inverse opals by electrodeposition on semiconducting substrates is shown [1]. On the other hand the growth of ZnO, a material of wide application spectrum, is demonstrated by a modified MOCVD method. Furthermore, in addition to its optical properties, its electrical properties make it a material with potential use as electrode for the growth of metallodielectric opals.

The challenge is now to combine the growth of these two materials and others (organic and inorganic, metals and semiconductors) to produce well tuned heterostructures with desired properties.

[1] B.H. Juárez et al., *J. Phys. Chem B*, **108**, 16708 (2004).