

Abstract Submitted
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Prussian Blue thin films: electrochemical deposition and characterization¹ ANDRE A. PASA, MARILIA F. ALAMINI, LFFS, RENE C. DA SILVA, LABMAT, VINÍCIUS C. ZOLDAN, LFFS - UFSC, EDUARDO A. ISOPPO, LCME, UBIRAJARA P. RODRIGUES FILHO, IQSC - USP, ALOÍSIO N. KLEIN, LABMAT — Prussian Blue thin films $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$ are relevant for many applications such as molecular magnets, electrochromism and electrochemical sensors. In this work, Prussian Blue layers were grown through electrochemical deposition on 50 nm Au coated n-type Si (100) substrates, at room temperature, from electrolyte containing HCl, KCl, FeCl_3 and $\text{K}_3[\text{Fe}(\text{CN})_6]$. The layer formation was promoted by scanning sequentially the applied voltage, varying the scan rate and the number of cycles. Emphasis was given to the characterization of the samples with scanning and transmission electron microscopy, X-ray diffraction and atomic force microscopy. Pyramidal grains were typically observed with size increasing with the deposition time. The analysis of the topographic images allowed the determination of important practical parameters as the saturation roughness and correlation length, and scaling regime and exponents.

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