DLTS Study of Defect Distribution in Metal-Porous Silicon-Silicon Structures for Solar Application

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Abstract. The paper presents the results of Deep Level Transient Fourier Spectroscopy (DLTFS) analysis of MOS structures based on a porous p-Si substrate prepared by metal assisted anodic etching. Only three types from five types of samples were appropriate for DLTFS study by their electrical parameters. DLTFS measurements show that metallic contamination occurred in the sample preparation process. The reference, non-etched sample was also subjected to high temperature annealing to form thermal oxide. Au and Zn were confirmed in all DLTFS investigated samples. The impact of anodic etching parameters on defect distribution in the investigated samples is discussed.