

Title: Optical processing devices based on a-SiCH multilayer architectures

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Abstract: Red, green and blue optical signals were directed to an a-SiC:H multilayered device, each one with a specific transmission rate. The combined optical signal was analyzed by reading out, under different applied voltages, the generated photocurrent. Results show that when a chromatic time dependent wavelength combination with different transmission rates irradiates the multilayered structure, the device operates as a tunable wavelength filter and can be used in wavelength division multiplexing systems for short range communications. An application to fluorescent proteins detection is presented. (C) 2010 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim

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