



## Study of the amplified spontaneous emission in a dye-doped biopolymer-based material

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Auteur	Mysliwicz, Jaroslaw [1], Sznitko, Lech [2], Miniewicz, Andrzej [3], Kajzar, François [4], Sahraoui, Bouchta [5]
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Résumé en anglais	<p>In this paper we investigate the amplified spontaneous emission (ASE) phenomenon in the system based on a dye dissolved in a modified deoxyribonucleic acid (DNA). The system consisted of a biopolymeric matrix made of DNA blended with cationic surfactant molecule cetyltrimethyl-ammonium chloride (CTMA) and doped with a well-known rhodamine (Rh 6G) laser dye. Thin films of the DNA-CTMA : Rh6G were excited at <math>\lambda = 532</math> nm wavelength with 8 ns laser pulses. We report on ASE intensity as a function of the laser power, dependence of polarization state of the excitation beam, ASE gain and temporal stability of the signal for the investigated system.</p>
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