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# EFFECT OF WATER VAPORS ON THE TIME-RESOLVED SURFACE CURRENT INDUCED BY AMMONIA MOLECULES ADSORPTION IN GaAs *P-N* JUNCTIONS

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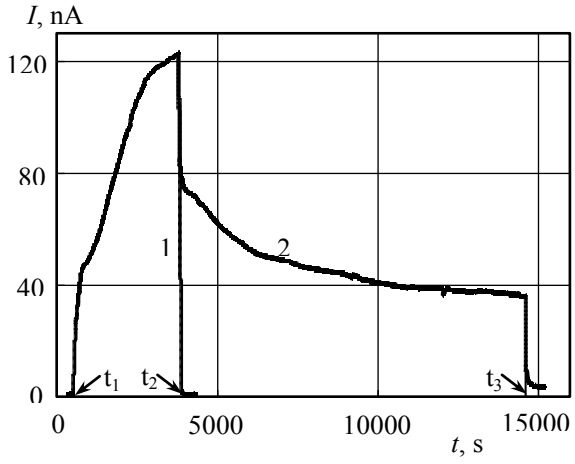


Fig. 1. Time-dependence of the current due to atmosphere changing: 1– dry air → ($t_1$) $NH_3$+$H_2O$ vapors → ($t_2$) dry air; 2– dry air → ($t_1$) $NH_3$+$H_2O$ vapors → ($t_2$) $H_2O$ vapors→ ($t_3$) dry air.

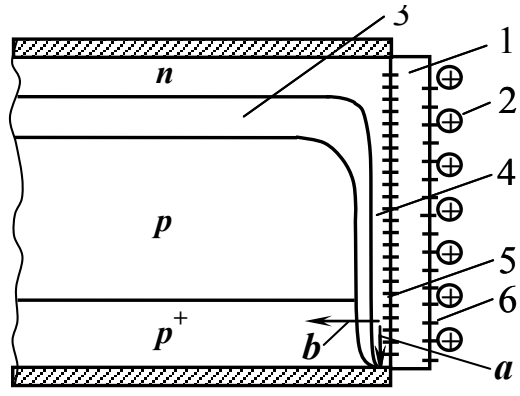


Fig 3. Schematic of a *p-n* structure, placed in a donor gas: 1 – oxide layer; 2 – ions; 3 – depletion layer; 4 – conducting channel; 5 – surface (fast) centers; 6 – states on the oxide surface (slow centers). Arrows: *a* – direction of the electron movement along the channel; b – tunneling from the channel into the $p^+$ region.

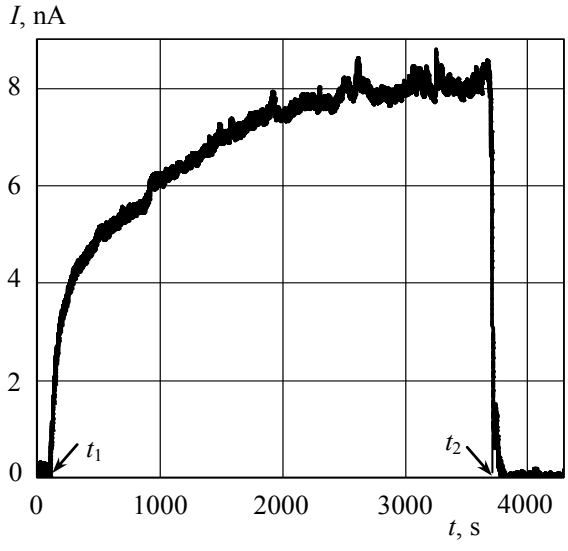


Fig. 2. Time-dependence of the current due to the ambient atmosphere changing: dry air → ($t_1$) $H_2O$ vapors → ($t_2$) dry air.

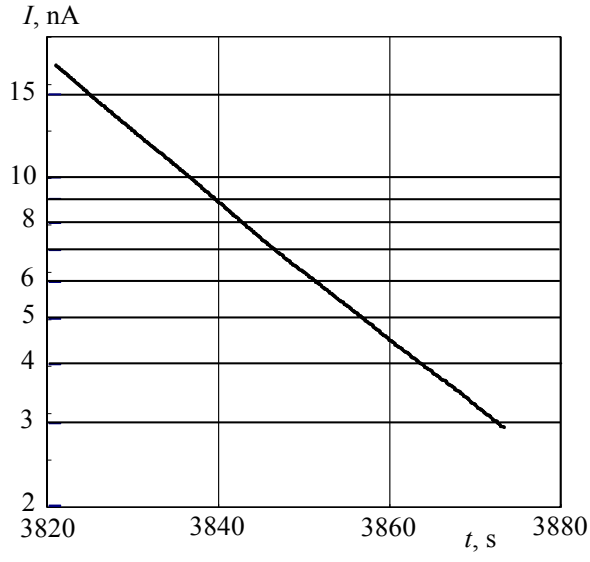


Fig. 4a. The "fast" exponential component of the curve 2 decay section in Fig. 1.

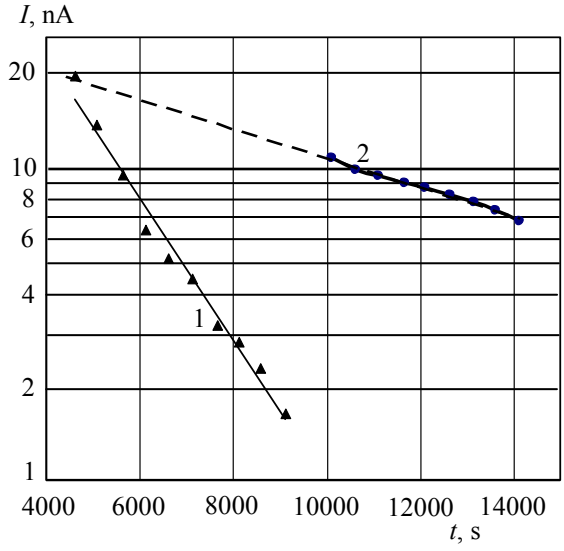


Fig. 4b. Two "slow" exponential components of the curve 2 decay section in Fig. 1.