

INFLUENCE OF THE SURFACE RECOMBINATION
PROCESSES OF HIGHER ORDERS
ON A THICKNESS OF THE INTERLAYER
RESPONSIBLE FOR FORMATION
OF PHOTOEFFECTS IN SEMICONDUCTOR
STRUCTURES

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S u m m a r y

An analysis of the effect of semiconductor bulk and surface parameters on the information-carrying depth Z_i of the formation of photoeffects is made. It is shown that this information-carrying depth Z_i grows with the surface recombination parameters S , R , and C_s . If the order of surface recombination (involvement of one, two, or three free charge carriers) grows, then the effect of the absorption coefficient k on Z_i shows itself over a wider range of its change (the $Z_i(k)$ curve flattens out at bigger k values). The Z_i value at $k \rightarrow \infty$ is the same whatever the S , R , and C_s values. It turns out that the Z_i magnitude changes nonmonotonically when the order of radiationless surface recombination grows.