

DEPENDENCE OF THE URBACH ENERGY
ON THE FERMI LEVEL IN A-Si:H FILMS

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S u m m a r y

As is known, there exist a lot of experimental results indicating the relation between the Urbach parameter (energy) and the Fermi level. But no analytical expression determining these dependences is available in the literature up to now. In the given work, we have obtained new formulas that determine the relationship between the Urbach energy and the Fermi level for pseudodoped amorphous semiconductors, in which the electron state densities in the tails of the allowed bands depend exponentially on the energy. It is shown that the results obtained by these formulas can explain experimental data quite well.