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Fermi level pinning by integer charge transfer at electrode-organic semiconductor interfaces DENIZ CAKIR, MENNO BOKDAM, GEERT BROCKS, University of Twente — The atomic structure of interfaces between conducting electrodes and molecular organic materials varies considerably. Yet experiments show that pinning of the Fermi level, which is observed at such interfaces, does not depend upon the structural details. In this work [1], we develop a general model to explain Fermi level pinning, and formulate simple expressions for the pinning levels, based upon integer charge transfer between the conductor and the molecular layer. In particular, we show that DFT calculations give good values for the pinning levels.

[1] Appl. Phys. Lett 98, 113303 (2011).

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