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Impact of the interfacial nanostructures on the electronic processes in organic solar cells

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After a brief description of the optical and electronic processes that take place in a solid-state organic solar cell [1], we turn our attention to recent theoretical advances regarding the determination of the energetics and dynamics at the organic-organic, donor-acceptor interfaces [2]. We underline the complexity of the processes taking place at the nanoscale [3] and highlight the balance that needs to be found for the optimization of materials parameters in terms of photovoltaic performance.

[1] J.L. Bredas, J. Norton, J. Cornil, and V. Coropceanu, *Acc. Chem. Res.* **42**, 1691 (2009).

[2] Y. Yi, V. Coropceanu, and J.L. Bredas, *J. Amer. Chem. Soc.* **131**, 5131 (2009); *ibid.*, *J. Mater. Chem.* (2010).

[3] M. Linares *et al.*, *J. Phys. Chem. C* **114**, 3215 (2010).