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STUDY OF P3HT THIN FILM PHOTOLUMINESCENCE SPECTRA USING H-J AGGREGATE THEORY

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The usual interband transitions S_0-S_0 , S_0-S_1 , S_0-S_2 can be clearly identified in the recently published photoluminescence measurements on P3HT layers. However, in many cases the spectra are characterized by weaker ripples besides these main features. We point out their possible interpretation by means of the H and J aggregates theory proposed by Spano (F. C. Spano, J. Chem. Phys. 122, 234701-234715, 2005). Such an explanation correlates with the fact that the P3HT material in a spin-coated layer consists of the amorphous phase and one or two crystalline phases depending on the substrate surface properties.

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