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Characterization of organic solar cell morphology EITAN LEES, KYLE KELLY, CORTNEY BOUGHER, Appalachian State University, SUSAN SPENCER, PATRICK HEAPHY, JEREMY CODY, CHRISTOPHER COLLISON, Rochester Institute of Technology, TONYA COFFEY, BRAD CONRAD, Appalachian State University — The morphology of organic solar cell bulk heterojunctions were characterized using atomic force microscopy (AFM). The RMS roughness of solar cells composed of 1,3-bis[4-(N,N-diisopentylamino)-2,6-dihydroxyphenyl]squaraine [DiPSQ(OH)$_2$] and phenyl[C_{61}]-butyric acid methyl ester [PCBM] through spin casting were measured. Solar cells of various blend concentrations, anneal times, and cooling methods were characterized. Through RMS roughness analysis we can study the crystallization process in solar cell fabrication. Morphology will be related to device characterization.

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