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Organic spin-valves based on fullerene C60[1] RAN LIN, FUJIAN WANG, MARKUS WOHLGENANNT, University of Iowa, CHUNYONG HE, XIAOFANG ZHAI, YURI SUZUKI, University of California at Berkeley, MARKUS WOHLGENANNT TEAM[2], YURI SUZUKI TEAM[3] — Recent work suggests that the spin-transport length in organic semiconductors is limited by hyperfine coupling. Therefore, to potentially overcome this limitation, we fabricated spin-valves based on C60 for which the hyperfine coupling is minute. However, our devices do not show a significantly larger spin-diffusion length. This suggests that either a mechanism other than hyperfine coupling causes the loss of spin-polarization, or that in thick devices an increasing conductivity mismatch limits spin-injection.

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