

In this talk I will show our progress in the fabrication and characterization of organic spin valves. Our previous work, and that of others, has shown the important role of tunnel barriers to improve the magnitude of the magnetoresistance of a device. We have used LiF as a tunnel barrier due to its success in lowering the charge injection barriers in organic light emitting diodes. I will show results from a variety of spectroscopic and microscopic techniques that demonstrate high quality interfaces between the ferromagnetic metal/LiF/organic semiconductor. Despite the improved charge injection properties introduced by the LiF tunnel barriers, the spin-polarized electron injection efficiency is degraded.

Greg