

## **Engineering spin-transport and spin-injection properties of a ferromagnet/organic semiconductor hybrid junction**

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Organic semiconductors seem to be promising materials for spin electronic (spintronic) applications because of their remarkable long spin relaxation times. Another advantage of organic semiconductors is their tuneable band structure by the choice of functional groups. The combination of metal-phthalocyanines (MePcs) and ferromagnetic metal (FM) substrates has shown both, high spin-injection efficiencies and long spin relaxation times and is therefore an excellent choice for further investigations. The electronic and magnetic properties of MePCs are mainly determined by the 3-d states of the central metal atom. Here the changes in the molecular orbitals (MOs) of MePcs by choice of different metal central atoms were investigated using UPS-measurements at different excitations energies in combination with photo-ionization cross-section weighted DFT-simulations. Further the control of the spin-transport and spin-injeciton properties of MePc/FM were investigated by spin-resolved UPS measurements.