

OSIDs as Materials for energy Harvesting

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Abstract: Energy harvesting is a major thrust area of modern research. With the depletion of the existing resources, methods are being searched to produce and store energy in whichever possible ways. In this regard, recent research revolves around search for materials which can help harvest energy. With the advent of nanomaterials, it was felt that this requirement would be met to a large extent. However, nanomaterials needed to be embedded into a matrix to harness their utility. Thus, the use of thin films with nanomaterials incorporated into energy harvesting was thought of. However, the substrate on which the films were deposited interfered with the device performance. The lattice mismatch generated enough defects to hamper the device output. Hence the need of free standing films were arose.

In this talk, we would discuss about the freestanding thin films which are flexible too and can act a s a host to a variety of nanomaterials. Thus, cutomising the films based on device performance would be possible. A new class of compounds, the Organic Semiconductor Inorganic Dopants (OSID) would be discussed. Some results on energy harvesting applications will also be deliberated upon.