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## Printing technology for photovoltaic applications

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Printing technology for photovoltaic applications

Benjamin Predeschly, Sebastian Grott, Peter Müller-Buschbaum

TU München, Physik-Department, LS Funktionelle Materialien, James-Franck-Str. 1, 85748 Garching

Organic solar cells (OPVs) are a very promising technology of photovoltaics and exhibit advantages in comparison to inorganic photovoltaics, like light weight, flexibility, low-cost processing and lower energy payback time. Due to this, they have been under intense investigation over the last decades. To make them attractive for industrial application and production, it is essential to ensure the competitiveness of the OPVs by increasing its reliability and efficiency as well as improving and simplifying its fabrication process. Commonly, organic solar cells in lab scale are prepared using the spin coating method. Other methods, suitable for industrial application, are spray coating or printing. Both methods have the advantage of a large-scale production, especially the inexpensive roll-to-roll printing exhibits one of the best prospects to process OPVs on large surfaces.

In this study, investigations on the printing technology for organic materials applied on flexible substrates are carried out. With the printing technology the fabrication process of OPVs are intended to be optimized. Further, photoelectric characteristics as well as spectroscopic measurements are performed to receive deeper insight into the correlation of the different properties of printed organic solar cells. The film morphology is probed with scattering methods.

**Primary authors:** PREDESCHLY, Benjamin; GROTT, Sebastian (TU München, Physik-Department, Lehrstuhl für Funktionelle Materialien); MÜLLER-BUSCHBAUM, Peter (TU München, Physik-Department, LS Funktionelle Materialien)

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