

BACHELOR THESIS in Physics:

Systematical growth study of thiazolothiazole (tztz) thermally evaporated on a metal surface

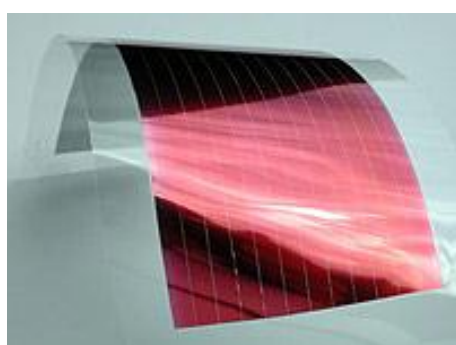


Fig. 1: Organic solar cell

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In recent years new optoelectronic devices based on organic thin films have entered the market. Organic light emitting diodes (OLED), organic thin film transistors (OTFT) and organic solar cells (OSC) are the most prominent applications. The organic molecule thiazolothiazole (tztz) is a high potential p-type semiconductor for the application in OSC or OTFT devices. In order to access the full potential of this future technology a fundamental understanding of the physical processes regarding growth and structure of the organic thin films thermally evaporated on a transparent conducting oxide (TCO) substrate has to be developed. Hence, the proposed bachelor thesis will focus on the growth of organic thin films on indium tin oxide (ITO). The samples will be prepared by vacuum thermal evaporation (VTE) with varying substrate temperatures and deposition rates. The investigation of the morphology will be performed by atomic force microscopy (AFM) and the crystalline structure by x-ray diffractometry (XRD).

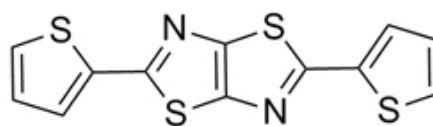


Fig. 2: thiazolo-thiazole molecule

What you should contribute:

- Interest and enthusiasm for scientific research
- Ability to work in a team including attendance in group meetings and institute seminars
- Experimental skills
- Profound knowledge in data analysis

More information on organic thin-film applications and the work of our group can be found:

<http://www.physik.rwth-aachen.de/institute/institut-ia/forschung/organische-schichten/publikationen/>