



## Electrical Characterization of Novel Organic Semiconductor

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Condition: New. Publisher/Verlag: VDM Verlag Dr. Müller | Materials and Devices for Sensor Technology | Despite the commercialization of organic semiconductor devices, their charge transport mechanism is still not very clear, particularly at variant temperature for sensor technology. Therefore, in this study temperature dependent electrical characterization of orange dye 25, poly-N-epoxypropylcarbazole, and copper phthalocyanine based novel organic semiconductor diode as sensors were investigated. Current-voltage technique is used to explain the charge transport mechanism. The study can be distributed into the following four phases. In phase I, investigation of humidity properties of OD were accomplished by fabricating surface type OD/Au and sandwich type Al/OD/In<sub>2</sub>O<sub>3</sub>, Al/OD/Au sensors. In phase II, electric and photoelectrical properties of the Ag/p-CuPc/n-GaAs/Ag heterojunction cell under modulated laser beam illumination were examined. Electrical properties of doped PEPC, deposited over the surface of p-Si at different gravity by a centrifugal process, as sensor were explored in phase III. By applying trapped space charge limited current model (TSCLC) on the I-V characteristics of of humidity sensor, different electrical charge transport parameters were estimated in phase IV. | Format: Paperback | Language/Sprache: english | 254 gr | 180 pp.



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