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Modelling and simulation in the technology of power devices

The design of modern semiconductor devices requires the numerical simulation of basic fabrication steps. This will be demonstrated on the example of a High Voltage pMOS Transistor. We discuss different model equations which describe the redistribution of impurity atoms and point defects in such semiconductor structures at high temperatures. New mathematical results concerned with qualitative properties of corresponding electro–reaction–diffusion equations are shortly presented.

References: R. Hünlich, A. Glitzky, W. Röpke, WIAS–Report No. 13, 1997; A. Glitzky, R. Hünlich, *Appl. Anal.* **66** (1997), 205–226.