الأستهــلال

قال تعالى :

{ هُنَالِكَ الْوَلَايَةُ لِلَّهِ الْحَقِّ هُوَ خَيْرٌ ثَوَابًا وَخَيْرٌ عُقْبًا }44

صدق الله العظيم

(سورة الكهف الآية (44

Dedication

To my mother
Un known soldier in our home

To my father
It’s the greatest love that he holds

To my brothers
To my sisters
To my teachers
To science and knowledge
To all my friends

Acknowledgement

Before of all the praise and thanks be to Allah whom to be a scribed all perfection and majesty.

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Abstract

In this study that have two type of charge carriers in semiconductors, the electron and the hole, can contribute to a current, since the current in a semiconductor was determined largely by the number of electrons in the conduction band and the number of holes in the valence band. The mobility of charge carriers which relates the average drift velocity to the electric field. We can make a carrier go as fast as we like just by increasing the electric field. Also was studied the variation of mobility with temperature. At high temperature the mobility decreases, by the lattice atoms, at low temperature the mobility decreases also by ionized impurity. The carrier have a similar doping dependence: for low doping concentration, the mobility is almost constant. At higher doping concentration, the mobility decreases due to ionized impurity.

الخلاصة

توجد في اشباه الموصلات نوعين من حاملات الشحنة, الالكترون والفجوة التي تساهم في وجود تيار, حيث ان التيار في اشباه الموصلات يحدد بشكل كبير بواسطة عدد الالكترونات فى نطاق التوصيل وعدد الفجوات فى نطاق التكافؤ. والحركية بالنسبة لهذه الحاملات تتعلق بمتوسط سرعة الانجراف الى المجال الكهربي, وجعلت هذه الحاملات تتحرك بسرعة اكبر فقط بزيادة المجال الكهربي. وايضا درست تغاير الحركية مع درجة الحرارة, فعند زيادة درجة الحرارة تقل الحركية بواسطة زرات الشبيكة. وعند انخفاض درجة الحرارة تقل الحركية ايضا بواسطة الشوائب المتاينة. ووجدت ان هذه الحاملات تعتمد على المطعمات ايضا, فعندما يكون تركيز التطعيم اقل فالحركية تقريبا تكون ثابتة. وعند زيادة تركيز التطعيم تقل الحركية بسبب الشوائب المتاينة.

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