

품질 향상을 위해 자기장을 이용한 초크랄스키 성장법

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Study of silicon ingot wafer cell in the photovoltaic market that has been studied is still active. Now, to increase the productivity, as well as the quality is considered important in the ingot wafer. And it is not possible to measure the defects generated in the crystal or the crucible. Thereby it is possible to save the extra cost of the process by the process of crystal growth from the CFD program. First is to look to find the best Seed rotation rate, Crucible rotation rate in the CCz process. The next step is to melt silicon within the crucible how much should be maintained in order to increase productivity experiment. The heat power consumption according to the height of the molten silicon in the crucible may be changed. To find the most appropriate height in order to grow a continuous ingot. By keeping the height it is possible to save the power consumption. This leads to cost reduction. Finally, the study will attempt to enforce the decision of reducing impurities in order to improve quality. Impurity in the ingot is mainly oxygen. It will put the magnetic field in order to control the oxygen. The magnetic field will be generated by the magnet. The magnetic field in the horizontal direction and the vertical direction. And to look for the optimum shape of the magnet and the magnetic field strength. Accordingly, the productivity can be expected a high quality silicon ingot.