

## General Conclusion

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In this work ,using the designed controller ,the simulation results of the Regulation Blood Glucose of diabetic patient.

This work compares tuning PID and PSO-PID model based control algorithms which aim to be applied to closed loop blood Glucose control.

The aim of this work was to develop a novel and robust PID control algorithm to control the glucose concentration in people with type 1 diabetes mellitus.

Two types of controllers were implemented: the first type is the tuning PID controller and the second type is PSO-PID controller The investigation of the best value for both the controllers was conducted.

These results show that the controllers designed are both robust, but that PSO-PID controllers performance is superior to the PID.

And the building of Digital PID controller in the System Generator it easiest to implement in the Hardware(FPGA).