Design of "Adaptive Automobile Headlights" using PIC 16F877A

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ABSTRACT

"Adaptive headlight" is a system which is aimed at addressing the problem of accidents and difficulty in driving due to poor lighting on roads. "Adaptive headlight" can direct the beams by moving each headlamp left, right, up or down in reaction to steering wheel angle, speed and movement of the vehicle. This keeps the road surface correctly illuminated when the vehicle's front is diving on hard deceleration, prevents the beam going up in the air when the vehicle accelerates, and also ensures that the beam lights is on the road in a curve instead of illuminating the side of the road.

In our project, titled "Design of "Adaptive headlights" using PIC 16F877A", in which we have designed and developed a prototype model with limited features, where the focus of the headlights is changed to the required region by actual movement of the headlights itself.

This system is implemented using PIC 16F877A microcontroller. This system has a continuously running program that updates the outputs continuously.

Thus, the efficiency of the car is increased, as the system works with minimal additional hardware and consumes less power, and the roads are illuminated in a better way.