The Optical Imaging Remote Sensor that Captures Objects' Changing Movement

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This project researches on a new sensor, which can capture the changing movement of the objects in the distance and produce relevant signals. Its working principle is that the sensor captures images in the distance through a telescope or a camera system. The light of the distant images in the detecting zone reflects on the photosensitive resistors. When the images change, the photosensitive resistor changes accordingly. The initial research was on a single photosensitive resistor to check whether the object enters or leaves the target zone. In the further research, we placed four photosensitive resistors and around the object image, detecting its direction tendency of its movement. In the end, we successfully controlled the camera photographing or moved the camera to follow the target objects by combining circuit analysis, judgment, and servo drive system. This device can detect the birds' activities a few kilometers away and changes of moving celestial bodies tens of thousands of kilometers away.

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