

IART-053
CMOS Sensor Integrated with RFID Link for Chloride Monitoring

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Abstract

Concrete structures are a critical component of the transportation infrastructure of the state of Pennsylvania. While considerable effort is devoted to the inspection of such structures present methods do not accurately assess the corrosion state of buried reinforcing rods. This project will result in the development of an embedded sensor which will be more accurate and also more efficient. The CMOS-based chip-scale sensor for chloride concentration will be integrated with available RFID (radio-frequency identification) electronics. We will also develop a knowledge base concerning RF communications range and evaluate the practicality of extending this work to additional sensor types. Development of such technology within the state of PA is likely to lead to future commercialization activities.