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Energy-efficient sensing matrices for Wireless Multimedia Sensor Networks: A Review

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Abstract

Wireless Multimedia Sensor Networks (WMSN) hold the key to unlocking the next generation of video surveillance applications. They operate under energy-constrained environments but Compressive Sensing (CS) is a tool that can help overcome these challenges. Sensing matrices are critical in delivering the promise of CS, there are different types and each has its benefits and costs. In this paper, these sensing matrices are compared and the strengths and weaknesses were highlighted. It was found that deterministic sensing matrices held the most promise as they gave better recovery accuracy than dense random matrices while being more efficient but, work still needs to be done to evaluate the energy cost of their implementation.