

## Development of a Pain Detector Using Microwave Radiometry Method

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**Abstract :** One of the greatest difficulties in treating patients with pain is the highly subjective nature of pain sensation. The measurement of pain intensity is primarily dependent on the patient's report, often with little physical evidence to provide objective corroboration. This is also complicated by the fact that there are only few and expensive existing technologies (Functional Magnetic Resonance Imaging-fMRI). The need is thus clear and urgent for a reliable, non-invasive, non-painful, objective, readily adoptable, and coefficient diagnostic platform that provides additional diagnostic information to supplement its current regime with more information to assist doctors in diagnosing these patients. Thus, our idea of developing a pain detector was conceived to take a step further the detection and diagnosis of chronic and acute pain.

**Keywords :** pain sensor, microwave radiometry, pain sensation, fMRI

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