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## A proposed resistance-to-time converter with switching impulse calibrators for resistive bridge sensors (Conference Paper)

Zahangir, M.<sup>a</sup>, Khan, S.<sup>a</sup>, Adam, I.<sup>b</sup>, Abdul Kadir, K.<sup>b</sup>, Nordin, A.N.<sup>a</sup>, Ibrahim, S.N.<sup>a</sup>

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### Abstract

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This paper presents a simple resistance-to-time converter. It consists of two voltage comparators, a ramp voltage generator, two logic gates and impulse voltage calibrators. A square-wave generator circuit is suggested in this paper. The design is simple and independent of the OPAMP offset issues. The resulting square-wave is rectified to get its DC equivalent and to a triangular output; the two outputs are applied to a comparator for generating a digital output with duty cycle proportional to a change in resistance upon which is dependent the DC. © 2017 IEEE.

### SciVal Topic Prominence

Topic: Capacitive sensors | Capacitance | Capacitance-to-digital converter

Prominence percentile: 84.948

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impulse voltage calibrators ramp voltage generator resistance-to-time converter

### Indexed keywords

Engineering controlled terms: Comparator circuits Operational amplifiers Square wave generators

Engineering uncontrolled terms: Digital output Duty-cycle Impulse voltage Ramp voltage Resistance-to-time converter Resistive bridge sensors Square waves Switching impulse

Engineering main heading: Comparators (optical)

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