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# The Paradox of Electromagnetic Interference Affecting Medical Devices at International Hospitals

Publisher: IEEE

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## Abstract

### Document Sections

- I. Introduction
- II. Background Information Regarding Energy Demands at International Hospitals Amidst Covid-19
- III. Solution Set Architecture for Mitigation Efforts
- IV. Conclusion

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## Abstract:

Overburdened electric cables, transformers, and other electrical equipment can fail. Given the historical uncertainty of their backup measures, hospitals are looking to innovative possibilities for power outage mitigation. For example, prior to failure, aberrant thermal readings, noise, and spark emissions may be detected (in addition to aberrant current and voltage waveforms). The equipment at key poles servicing the hospital can be monitored for aberrations; likewise, the power systems within the hospital can also be monitored for aberrations. In this way, service personnel may be dispatched prior to terminal failure. This hyper-locale power aberration assessment mechanism enables predictive/preventive (leveraging early indicators and warnings of potential power reliability and stability issues) maintenance rather than simply corrective maintenance (allowing the system to operate until the equipment fails). This paper examines how thermal, noise, and spark detection sensors provide an opportunity for more robust coverage and more likely detection of certain powerline noise aberrations at the "edge" against a set of compiled heuristics.

**Published in:** 2020 8th International Conference on Condition Monitoring and Diagnosis (CMD)

**Date of Conference:** 25-28 Oct. 2020

**DOI:** 10.1109/CMD48350.2020.9287272

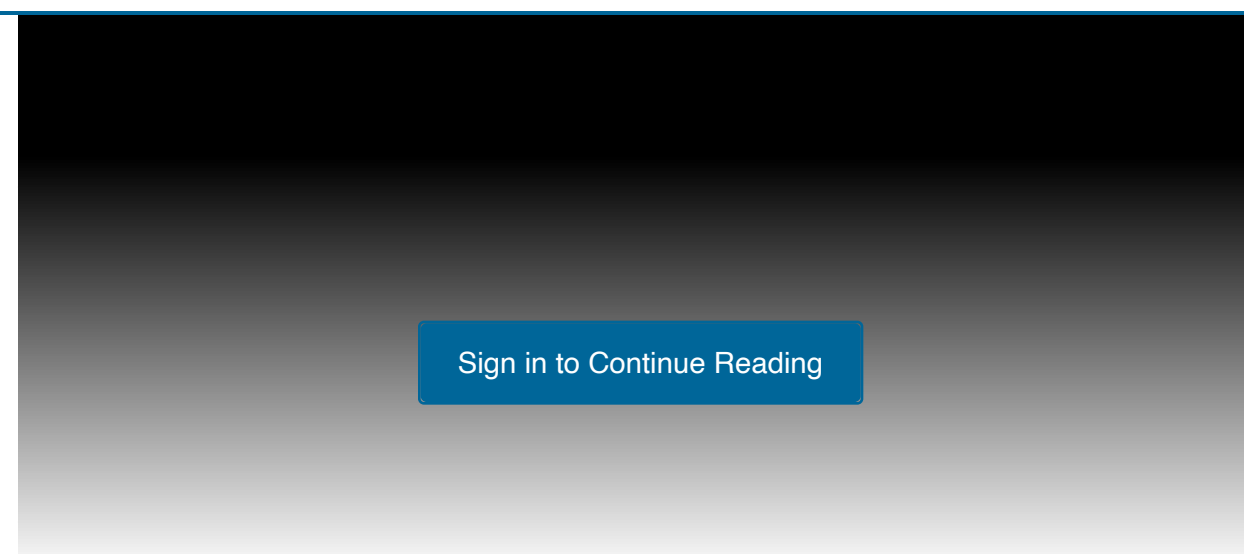
**Date Added to IEEE Xplore:** 16 December 2020

**Publisher:** IEEE

**► ISBN Information:**

**Conference Location:** Phuket, Thailand

**► ISSN Information:**



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