

# Radio Environment Map Construction: A Mini-Review

**Publisher: IEEE**

[Cite This](#)

[PDF](#)

[Oluwatobi E. Dare](#); [Kennedy Okokpujie](#); [Emmanuel Adetiba](#)

## Abstract:

Radio Environment Map (REM) is a multi-domain radio information of a geographical location. In the contemporary period, the proliferation of wireless communication has played a significant role in driving the advancement of emerging technologies, including edge computing and the Internet of Things (IoT). Consequently, there exists a pressing necessity to optimize the utilization of the limited spectrum resources available. A technical paradigm embraced by Federal Communications Commission (FCC) to enhance spectrum efficiency is the Database-driven Dynamic Spectrum Sharing (DSS) where users with no prime right (secondary user) are allow to opportunistically use the licensed spectrum. The information contained in REM plays a vital role in DSS. This paper reviews the REM concept, the layers of information contained in the REM, REM construction techniques, related works in literature, the state-of-the-art methodology and REM applications.

**Published in:** [2023 2nd International Conference on Multidisciplinary Engineering and Applied Science \(ICMEAS\)](#)

**Date of Conference:** 01-03 November 2023

**Date Added to IEEE Xplore:** 05 January 2024

**ISBN Information:**

**DOI:** [10.1109/ICMEAS58693.2023.10379358](#)

**Publisher:** IEEE

**Conference Location:** Abuja, Nigeria

## I. Introduction

The current spectrum allocation system adheres to a conventional approach, wherein specific segments of the spectrum are solely licensed to traditional radio users, including the mobile carriers, radio and television broadcasters and military. This arrangement leads to suboptimal utilization of the spectrum resource [1].

Sign in to Continue Reading

Authors

[Oluwatobi E. Dare](#)

Dept. of Electrical & Information Engineering, Covenant Applied Informatics & Communication African Centre of Excellence (CApIC-ACE), Covenant University, Canaanland, Nigeria

[Kennedy Okokpuije](#)

Dept. of Electrical & Information Engineering, Covenant Applied Informatics & Communication African Centre of Excellence (CApIC-ACE), Covenant University, Canaanland, Nigeria

[Emmanuel Adetiba](#)

Dept. of Electrical & Information Engineering, Covenant Applied Informatics & Communication African Centre of Excellence (CApIC-ACE), Covenant University, Canaanland, Nigeria

HRA, Institute for Systems, Science, Durban University of Technology, Durban, South Africa

Figures

References

Citations

Keywords

Metrics

#### More Like This

[Internet of Things for Seismographs using Spline Interpolation](#)

2023 3rd International Conference on Intelligent Cybernetics Technology & Applications (ICICyTA)

Published: 2023

[Learning How to Communicate in the Internet of Things: Finite Resources and Heterogeneity](#)

IEEE Access

Published: 2016

[Show More](#)

•

[About IEEE Xplore](#) | [Contact Us](#) | [Help](#) | [Accessibility](#) | [Terms of Use](#) | [Nondiscrimination Policy](#) | [IEEE Ethics Reporting](#) | [Sitemap](#) | [IEEE Privacy Policy](#)

A public charity, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

© Copyright 2024 IEEE - All rights reserved, including rights for text and data mining and training of artificial intelligence and similar technologies.

