

Special Notice

IEEE Xplore is transitioning to HTTPS on 9 April 2018. Customer access via EZproxy will require version 6 or higher with TLS 1.1 or 1.2 enabled.

[Browse Conferences > Space Science and Communicati...](#)

The physics of the sheath effects in monopole plasma antenna or helix plasma antenna

Related Articles

[Modelica - a general object-oriented language for continuous and discrete-event ...](#)

Author(s)

M. E. Emeteri ; U. E. Uno ; M. L. Akinyemi

[View All Authors](#)

Keywords

Metrics

Media

Abstract:

The magnetic field in the sheath of monopole plasma antenna or the helix antennas has been found to have a negative impact on its general functionality. The vertical and horizontal signals at predetermined angles had been compromised by the sheath effect. It was observed that this phenomenon is almost unnoticed because magnetization has the highest magnitude when the device is switch on/off. In microscopic scale (monopole plasma antenna), the sheath effect is due to femto spin demagnetization of particulates. However, in macroscopic scale (helix antenna), the sheath effect is due to signal impairment.

Published in: *Space Science and Communication (IconSpace)*, 2015 International Conference on

Date of Conference: 10-12 Aug. 2015

Date Added to IEEE Xplore: 01 October 2015

ISBN Information:

Electronic ISSN: 2165-431X

INSPEC Accession Number: 15505142

DOI: 10.1109/IconSpace.2015.7283812

Publisher: IEEE

Conference Location: Langkawi, Malaysia

Contact & Support

[About IEEE Xplore](#) [Contact Us](#) [Help](#) [Accessibility](#) [Terms of Use](#) [Non discrimination Policy](#) [Sitemap](#)
[Privacy & Opting Out of Cookies](#)

A not-for-profit organization, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

© Copyright 2018 IEEE - All rights reserved. Use of this web site signifies your agreement to the terms and conditions.