On the Concept of Electromagnetic Inertia and its Application to Antenna Near-Field Minimization Problems

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Abstract

In spite of their potential practical applicability, antenna near-field minimization problems are not very known in the technical literature. Here we pose the general statement of minimizing the electromagnetic inertia [1],[2] over a closed surface surrounding the geometry of a generic antenna of given finite volume. The computational discretization procedure is then established with the help of algebraic topology. An example to show the scope of the technique is worked out.

References

[1] G. Kaiser, *Electromagnetic inertia, reactive energy, and energy flow velocity*, 2011, http://arxiv.org/pdf/1105.4834v1.pdf.

[2] G. Kaiser, *Coherent electromagnetic wavelets and their twisting null congruences*, 2011, http://arxiv.org/pdf/1102.0238v2.pdf.

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