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Metamaterials for impedance optimization and sustainability

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Metamaterials could allow developing superconductive-like materials at ambient temperature, with consequent drastic reduction in energy consumption. They are therefore promising materials for future accelerators of small and big scale. Here, electromagnetic metamaterials to synthesize an equivalent structure that approaches superconductive-like properties, i.e. extremely high electrical conductivity, are investigated. The underlying electromagnetic model is formalized analytically using transmission line theory and supported by electromagnetic simulations and experimental measurements.

Footnotes

Funding Agency

Paper preparation format

LaTeX

Region represented

Europe

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