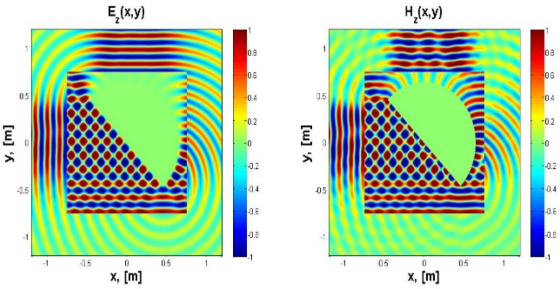

Figure 10: A 2D simulation of E_z and H_z field using FDTD.

5. Conclusion

In this paper, we presented a technique of combining the FV/FDTD and the Ray-Tracing methods to obtain the field diffracted in the far-field region for scatterers. We have illustrated the accuracy of this method for a finite metallic sheet, as well as for more complex structures. We found that the accuracy of the hybrid method depends on the form and the dimensions of the structures. Further, we want to extend this approach to the 3-D propagation modelling by calculating a library of diffraction coefficients for a variety of 3-D complex structures. Also an implementation of this approach keeping in an industrial terrain will be performed as the future work. Finally, our goal with the presented hybrid method is to evaluate the influence of small and complex structures on the channel modelling.

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Author Profile

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