

negative-index modes of the fishnet structure and computed hyperbolic isofrequency surfaces for the least-damped transverse mode. The sphere photonic crystal model is available for download [21].

Acknowledgments

We would like to acknowledge the developers of MUMPS [40], ARPACK [41,42], PETSC [43] and SLEPC [44]. Support of the staff of the Texas Advanced Computing Center is gratefully acknowledged. This work was supported by the Air Force Research Laboratory and the Office of Naval Research.