
KAI MING HO, Department of Physics and Astronomy and Ames Laboratory, Iowa State University

I will review some of our work in the computation of photonic crystals, focusing on our discovery of the photonic band gap in diamond structures. I will also describe our conception of the cut-and-paste genetic algorithm in materials discovery structure search and discuss applications of the algorithm from early studies of atomic clusters geometries to more recent applications for structures of surfaces, interfaces, nanowires, and bulk crystals.

1Support from the U. S. Department of Energy Basic Energy Sciences Office is gratefully acknowledged.
2Ho 31310 APS Aneesur Rahman Prize Winner