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Thermal Transport Through Carbon Nanotube Junctions and Carbon Nanotube Nanopapers[1] CHARLES A. BARR, ALPER BULDUM, Department of Physics, The University of Akron — Carbon nanotubes have demonstrated exceptional thermal transport properties that show promise in a wide range of applications. Nanotube nanocomposites and nanopapers have great potential as electronic thermal management materials. Here we present our theoretical investigations on thermal properties of nanotube junctions and nanopapers. Equilibrium and non-equilibrium molecular dynamics simulations are performed on non-bonded and bonded (fused) nanotube junctions and extended two dimensional structures (papers) containing these junctions. The investigation includes the effects of chirality, the off set in atomic register and the angle between the axes of the nanotubes on the thermal conductivity.

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