

1135-VP-2211 **Caitlin M. Owens*** (cmo312@lehigh.edu), Lehigh University Math Department,
Christmas-Saucon Hall, 14 E Packer Ave., Bethlehem, PA 18015. *HP, or not 2HP, that is the
question.*

It is known that 2-trees are Hamiltonian if and only if they are 1-tough. However, the analogous statement for Hamiltonian paths does not hold. I will present an infinite class of 1-path-tough 2-trees, 2-trees with scattering number one, which do not contain a Hamiltonian path. I will further discuss structural qualities of 2-trees which have Hamiltonian paths, by looking at endpoint limitations. These limitations lead us to two variations of the Hamiltonian path problem, 1HP and 2HP, which fix one or two endpoints of a Hamiltonian path, respectively. (Received September 25, 2017)