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Jamie L Burwood* (jburwood@bowdoin.edu), 113 Smith Union, Bowdoin College, Brunswick, ME 04011, and **Caroline Nielson**. *The Steiner problem on the cone*.

This paper investigates the n -point Steiner problem on the thin cone. The Steiner problem involves finding the minimal path between a set of points, adding additional vertices if necessary. This problem has been investigated extensively on the plane and solved on the sphere, but no one has previously explored this question on a surface with a sharp point. In order to reduce the problem on the cone to the problem in the Euclidean plane, we “cut” the cone in such a manner that it collapses to a circular wedge in the plane. For the 3-point problem, one cut is sufficient to determine the minimal Steiner tree; however, for n -points, many more cuts must be made in order to find the solution. We present an algorithm for making these cuts and constructing the Steiner tree. (Received August 11, 2006)