1086-VP-1320   **Alexander L. Garron; Jr.***, 7127 Spoonfoot St., Orlando, FL 32822. *Constructing an apollonian section parabola, onto a right cone having slope (m) and altitude (A).*

Apollonius never mentioned the parabola focus. I find the principal tool of today's parabola curve within a right cone using cone slope (m) and altitude (A). Using a CAS, I establish Cartesian two space profile composition of a right cone having slope (m = 2). Methods needed to find a section focus require plane geometry, analytic geometry, and linear direction number of three-D space to construct a solid geometry cone consisting of two generators, two diameters for vertex and focus, a principal axis, a focal axis, and the latus rectum. We start with the parabola section vertex on generator (pi/2), and make the section principal axis parallel with generator (3pi/2). Once the section profile and linear 'skeleton' is established, I use Sand Box Geometry specific identities and Mathematica to computer generate the solid geometry Apollonius' parabola section onto the cone surface and isolate the focus of the curve. A view along the (Z) axis will reveal the dual interpretation a parabola curve can present. We will see one vertex, two latus rectum, two foci, all from one Apollonian parabola section locus. I will show that the Apollonian 3-space section curve is actually the source primitive of our two space plane geometry curve providing the focal utility we use today. (Received September 21, 2012)