We can also relate the formulae for the β_{pick} node and anti-node locations with those we obtained above for the node and anti-node locations, in terms of the α_p-parameter, since both of these variables describe the (same) peak locations of the sawtooth waveform, where the pick is located along the length of the open string(s) guitar, referenced to the bridge end of the guitar.

For ***nodes*** associated with the n^{th} harmonic, we have:

$$\beta_{pick} \equiv L_{pick} / L_{scale} = m/n \quad (\text{with } 0 < \beta_{pick} < 1)$$

and:

$$\alpha_p = m/2n \qquad (\text{with } 0 < \alpha_p < ½)$$

For ***anti-nodes*** associated with the n^{th} harmonic, we have:

$$\beta_{pick} \equiv L_{pick} / L_{scale} = (2m-1)/2n \quad (\text{with } 0 < \beta_{pick} < 1)$$

and:

$$\alpha_p = (2m-1)/4n \qquad (\text{with } 0 < \alpha_p < ½)$$

where m is an integer such that $m = 1, 2, 3, ... < n$. Thus, we see that $2\alpha_p = \beta_{pick}$.

We can also see this from the definition of the α_p-parameter:

$$\alpha_p \equiv \theta_p/2\pi = kx_p/2\pi = 2\pi x_p/2\pi\lambda = x_p/\lambda$$

Since the location of the first peak of the triangle wave is x_p, referenced from the bridge of the guitar, then $x_p = L_{pick}$. Since the wavelength, λ of the fundamental is twice the scale length of the guitar, i.e. $\lambda = 2L_{scale}$, then:

$$\alpha_p = x_p/\lambda. = L_{pick} / 2L_{scale} = ½\ \beta_{pick}$$

Every guitarist knows that for maximum "twang", he or she can play notes close to the bridge. The harmonic content of the notes played here "brightens" up considerably in comparison to playing near the top of the neck, where it joins the body of the guitar, or e.g. playing notes at the 12th fret on the neck, as discussed above. The higher harmonics contribute more and more as the strings of the guitar are picked closer and closer to the bridge. Can we understand how this happens?

First, look at the diagram two figures that shows the first few harmonics (n = 1:6). Note that e.g. in the region below $\theta < \pi/8$, all of the harmonics shown have non-zero amplitudes, $|r_n| = |b_n|$. Since $\alpha_p \equiv \theta_p/2\pi = ½\ \beta_{pick} = L_{pick} / 2L_{scale}$, then for $\theta_p < \pi/8$, we have $\theta_p = 2\pi L_{pick} / 2L_{scale} = \pi L_{pick} / L_{scale} < \pi/8$, or $L_{pick} / L_{scale} = \beta_{pick} < 1/8$. Thus, picking in a region near the bridge which is within 1/8 of the overall scale length will tend to excite all of these harmonics. The ability to excite the fundamental from this picking location is reduced from that e.g. near the top of the neck, where it joins the body of the guitar. Thus, the fundamental is suppressed near the bridge. Likewise for the other