

[mex129] Apsidal angle at very high energies

Use the result of [mex128] to show that for a central force potential with the property $\lim_{r \rightarrow \infty} V(r) = \infty$, the apsidal angle of orbits with given angular momentum approaches a universal value at very high energy:

$$\lim_{E \rightarrow \infty} \Delta\vartheta = \frac{\pi}{2}.$$

Solution: