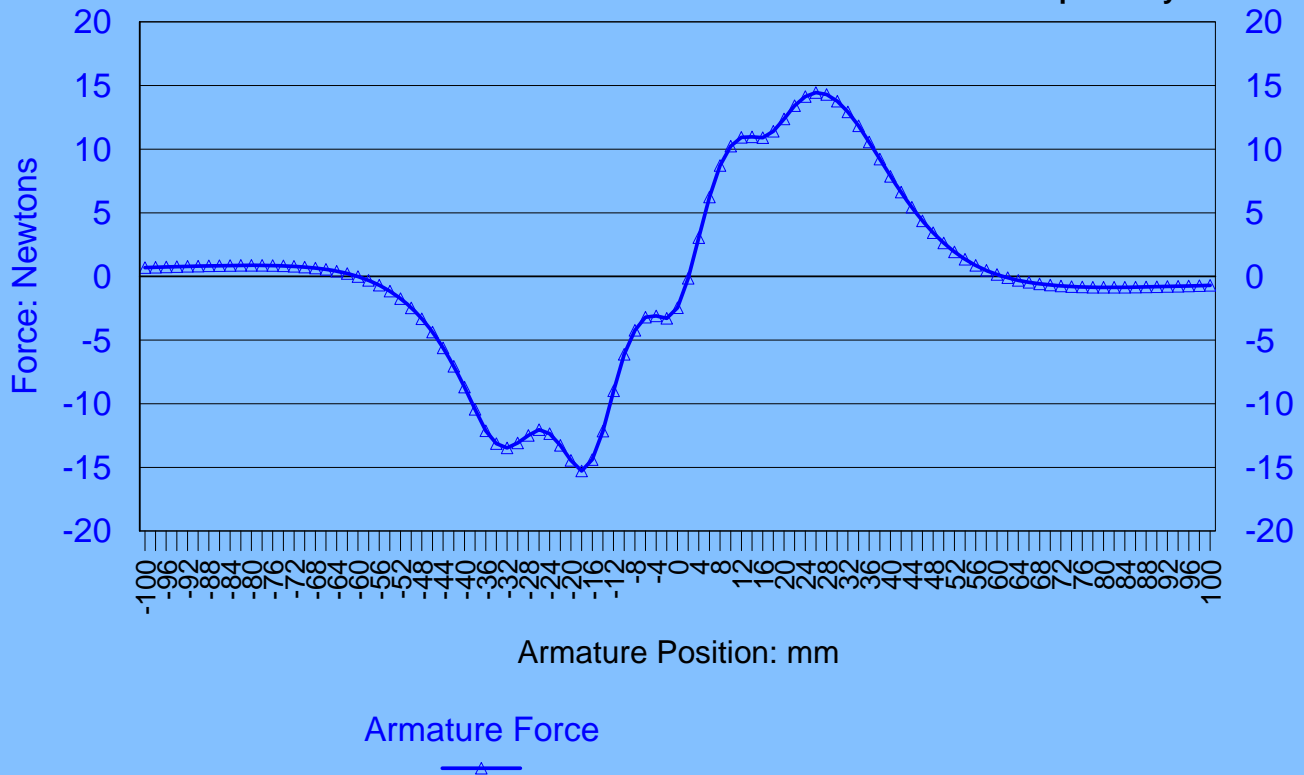


Hohl-linear-01

Triangular wedges, 1 armature/ 2 stators, motion +/-100 mm from center position
zero mm armature and stator locations are the centers of mass respectively



Average Armature Force: -0.0028 N

You must take the armature out an equal distance on each side of center, and measure force at small distance increments on a path from one extreme to the other, and take the average of the resulting forces for a complete "cycle" of linear motion. This average value above has a small error margin due to many factors, but the result is essentially zero average force once those error margins are taken into account!

IF YOU TAKE A SMALL PORTION OF THIS COMPLETE LINEAR CYCLE, YOU WILL OBTAIN ERRONEOUS RESULTS!

Example is with Hohl's data tables, moving the armature only within the bounds of the stator. If Hohl takes his armature out well beyond the stator ends on both sides and re measures force along this complete linear path, he will find a zero or near zero average force over this longer, correct path length.

The above is done in 2D with FEMM/lua as can be seen in the accompanying animation.