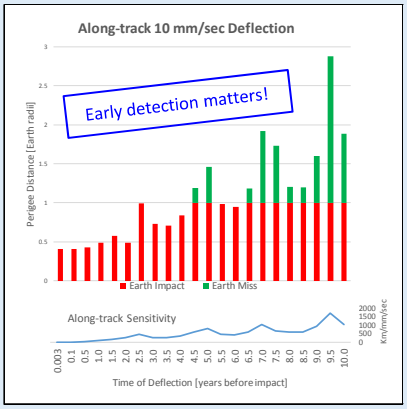
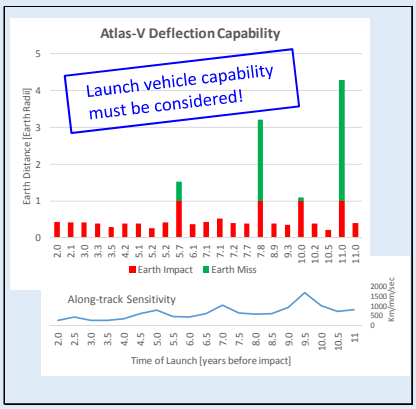
Insights for NEO Deflection

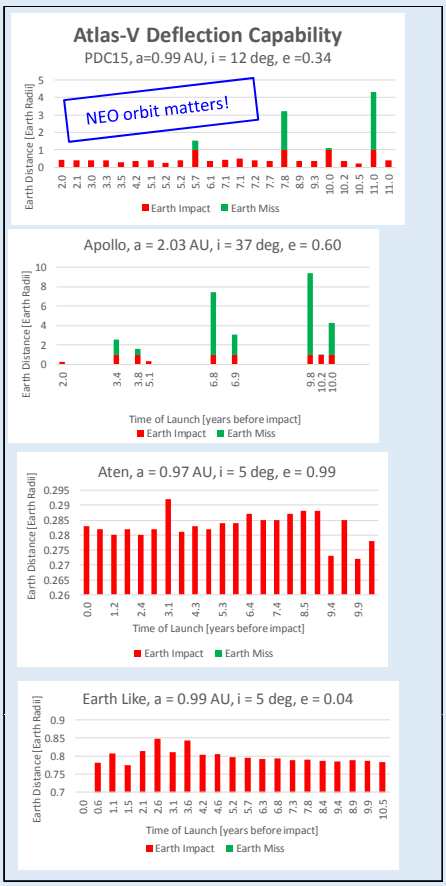
A physics based Near Earth Object (NEO) Deflection App was developed by The Aerospace Corporation for NASA. The tool helps to gain insight on deflection requirements and limitations by Kinetic Impactor. A hypothetical asteroid impact scenario was developed for the 2015 PDC and is accessible via: http://neo.jpl.nasa.gov/pdc15. The App supports this scenario by launching kinetic impact spacecraft to defect the asteroid and is accessible via: http://neo.jpl.nasa.gov/nda/.



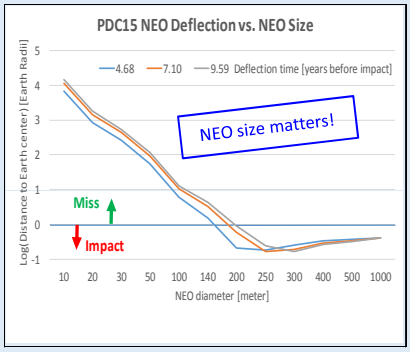
Along-track deflection capability during one decade before Earth impact for 140 meters asteroid "PDC 2015"



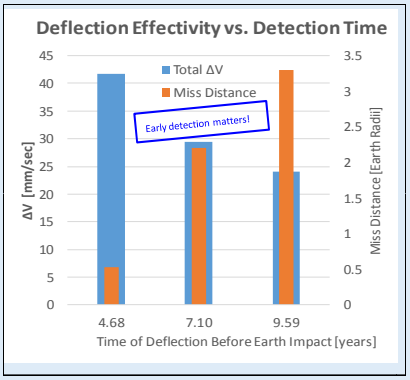
Atlas V deflection capability during one decade before Earth impact for 140 meters asteroid "PDC 2015"



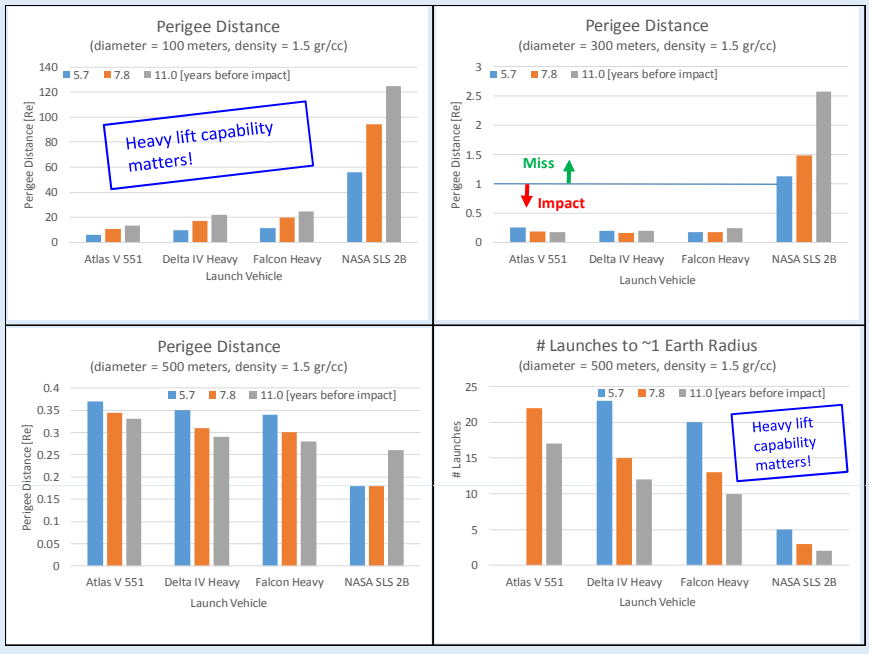
Atlas V deflection capability during one decade before Earth impact for four 140 meters simulated NEOs



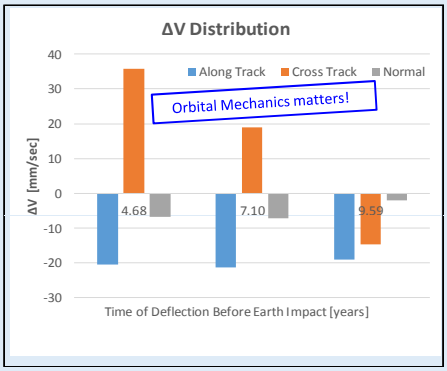
Atlas V deflection capability during one decade before Earth impact for 10 meters to 1000 meters asteroid "PDC 2015"



Atlas V deflection effectivity vs. detection time before Earth impact for 140 meters asteroid "PDC 2015"



Lift capability at optimal deflection times before Earth impact for 100 meters to 500 meters asteroid "PDC 2015"



Atlas V ΔV distribution in the along-track, cross-track and normal directions at optimal deflection times before Earth impact for 140 meters asteroid "PDC 2015"

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