ASM focus effects on its focal plane

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Based on the gaussian imaging equation and geometry, we have:
v=Ru/(2u-R)
s=R-sqrt(R^2-d^2)
where:
v is pathlength from secondary to focus (13.71369m);
u is the distance from M1 focus to M2 (1.0636900000000011m);
R is the radius of curvature of M2 (1.9742416143417358m);
s is the sag of the spherical M2 surface (0.0527317m);
d is half the diameter of M2 (0.4721431m).

then we can derive the following equations:
delta_v = 2u^2/(2u-R)^2*delta_R=v_c* delta_R;
delta_s=(1-R(R^2-d^2)^(-0.5))*delta_R=s_c* delta_R;

with the given values, we can get:
v_c = 96.492287
s_c = -0.029884934

Finally: delta_v= v_c/ s_c* delta_s = -3228.79*delta_s

the ratio between the PV of focal wavefront on the M2 and its far focal plane changes is -3229 (about -3000), which means about 100nm in PV focus on M2, corresponding about -0.3mm focal plane movement

With the current SX ASM configuration, the force and command distribution with commanded 100nm PV are shown below: