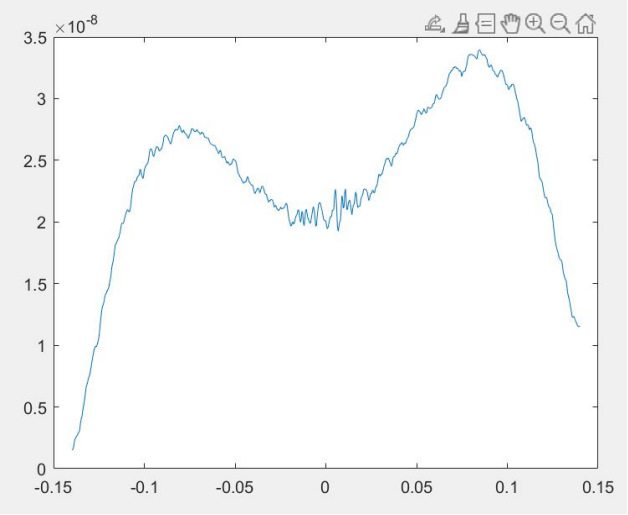
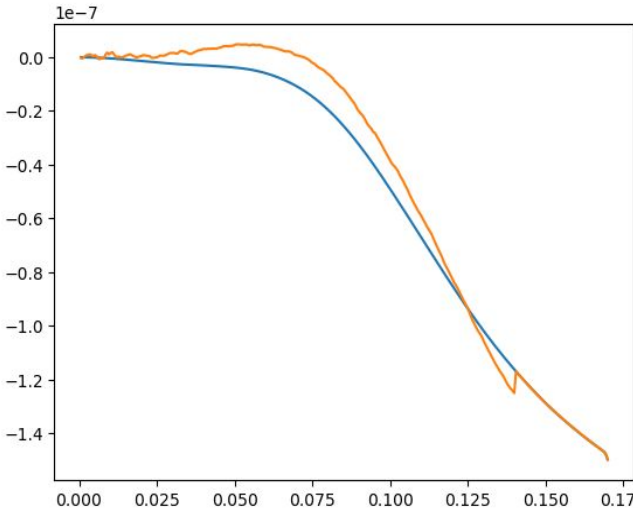
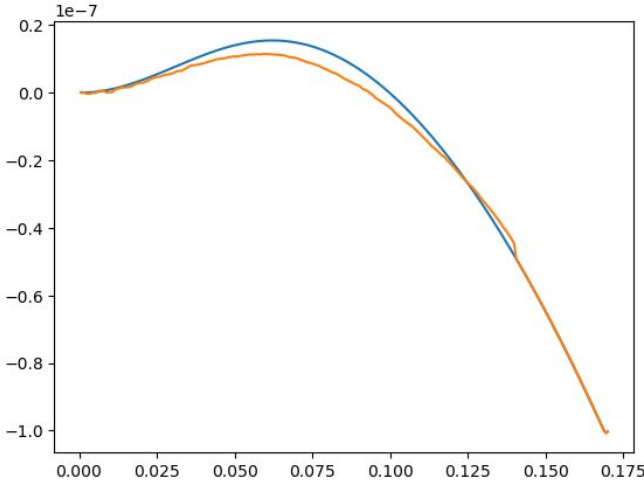
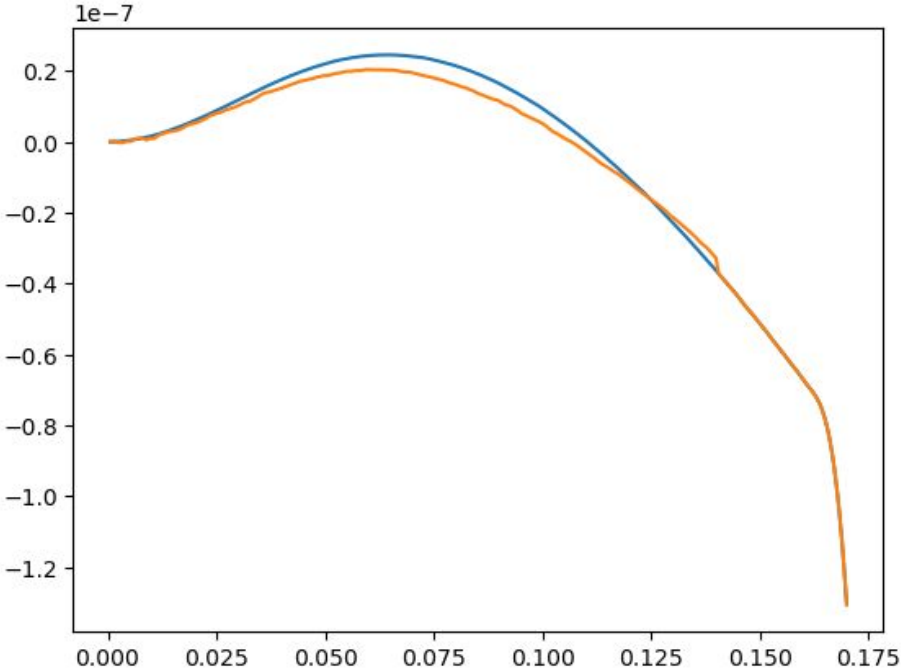
Added mirror coating (avg of ETM07 and 08 multiplied by the current rescaling factor predicted for O5). The added result not a big change as other actuations are higher usually by a degree of magnitude

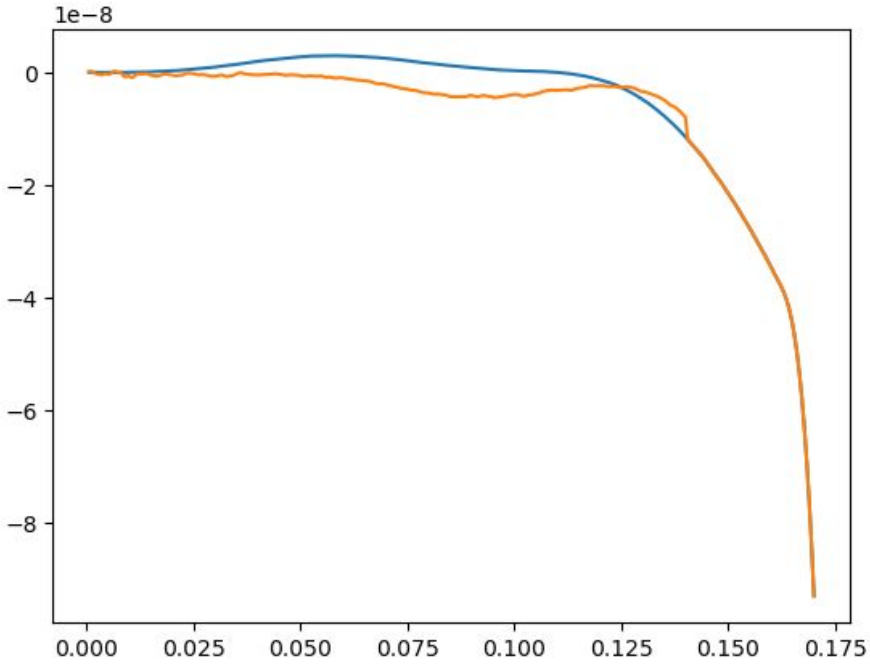




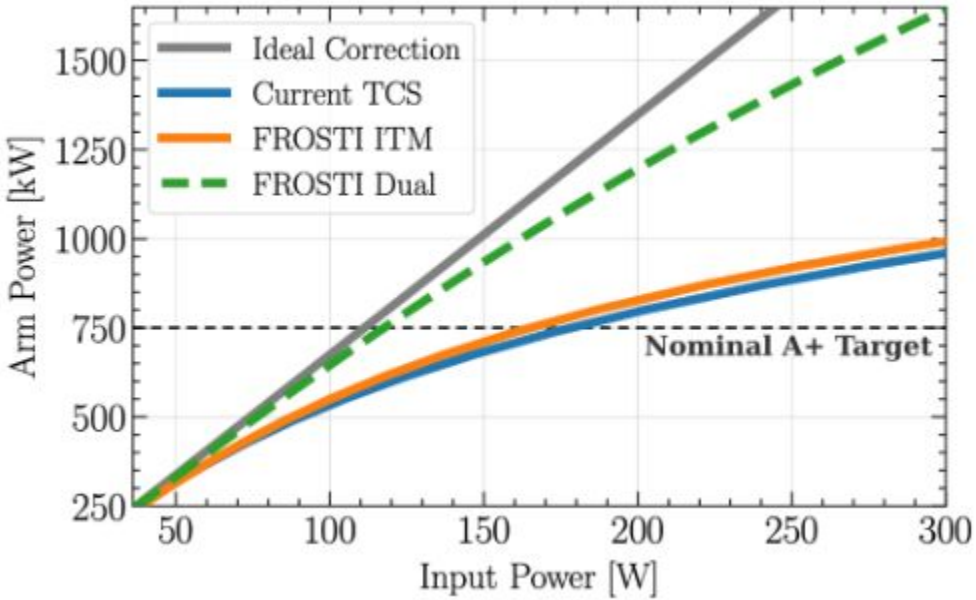


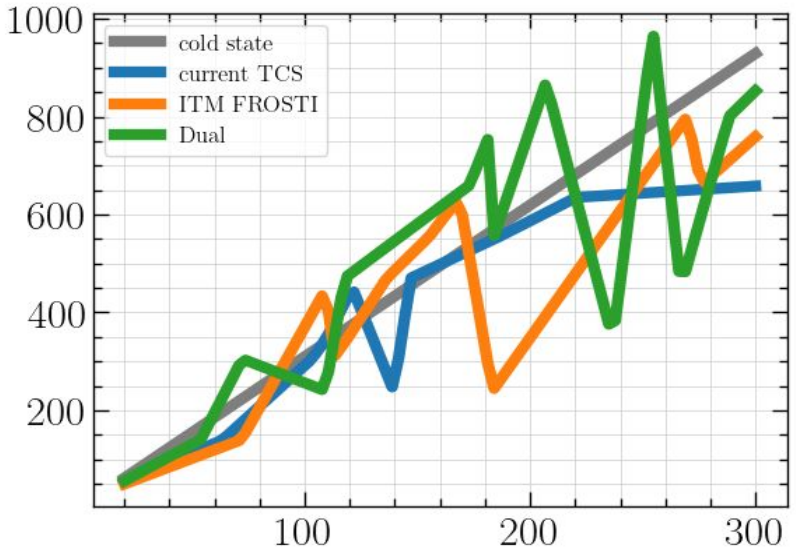
ITM with current TCS & ITM with ITM FROSTI





Resimulate result after coating- thermal map actuation unoptimized. But strange fluctuations and spikes in the required input arm power





Current issues and steps : spikes in required input power, corrections somehow better than ideal case, and optimization

Parm vs input	Ideal	Current TCS	ITM	Dual
555 (Kw)	179.23(w)	186.35(w)	155(w)	183.87(w)
660	213.14	306.	275.9	173.135
765	247.057	517.64	559.12	182.2
870	280.967	784.77	1104.57	207.06
975	314.877	864.67	455.91	254.49

I haven’t had the chance to run many trails of re-optimizing thermal maps due to the extreme long run time, this could explain why some case perform unexpectedly low

Current guess and potential next step

Reason the spike happen: guessing that it could be related to approaching an unstable point. I tried to run these near spike points individually and noticed they usually take longer to run

It could also be a result of not optimized thermal maps and scattering to even higher order modes.

Interpolation issue: although the spikes are real data, because the spike sometimes can make an extreme high value of required input power that is out of the plotting scope, leaving even less data to use for interpolation when there is already a shortage of data points. This could potentially explain why it seems like there is no general trend to which case tend to perform better, they are all tangled together.