PRINCETON UNIVERSITY

———Dot-roach analysis———
convergenceId=v097747 dotRoachId0=v097749 darkRoachId0=v097774 mod4Id0=v097798

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auto
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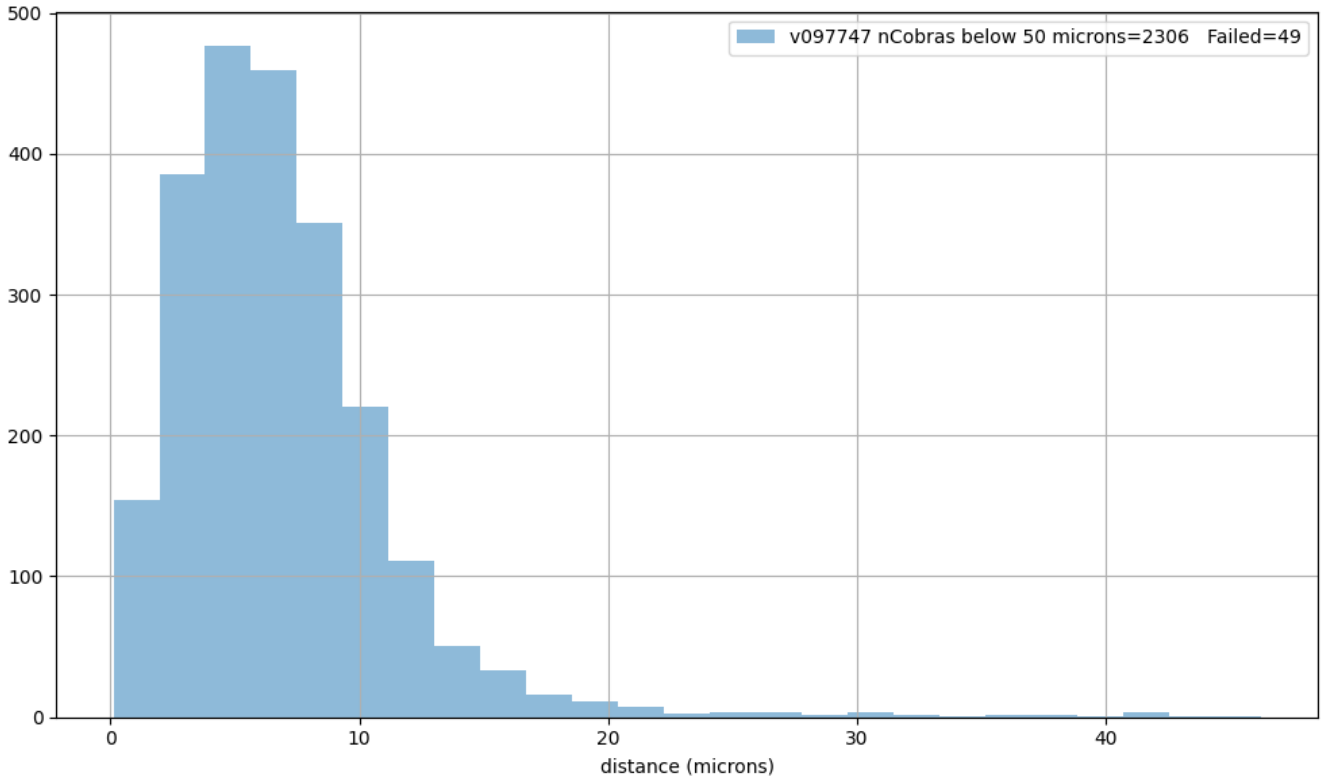
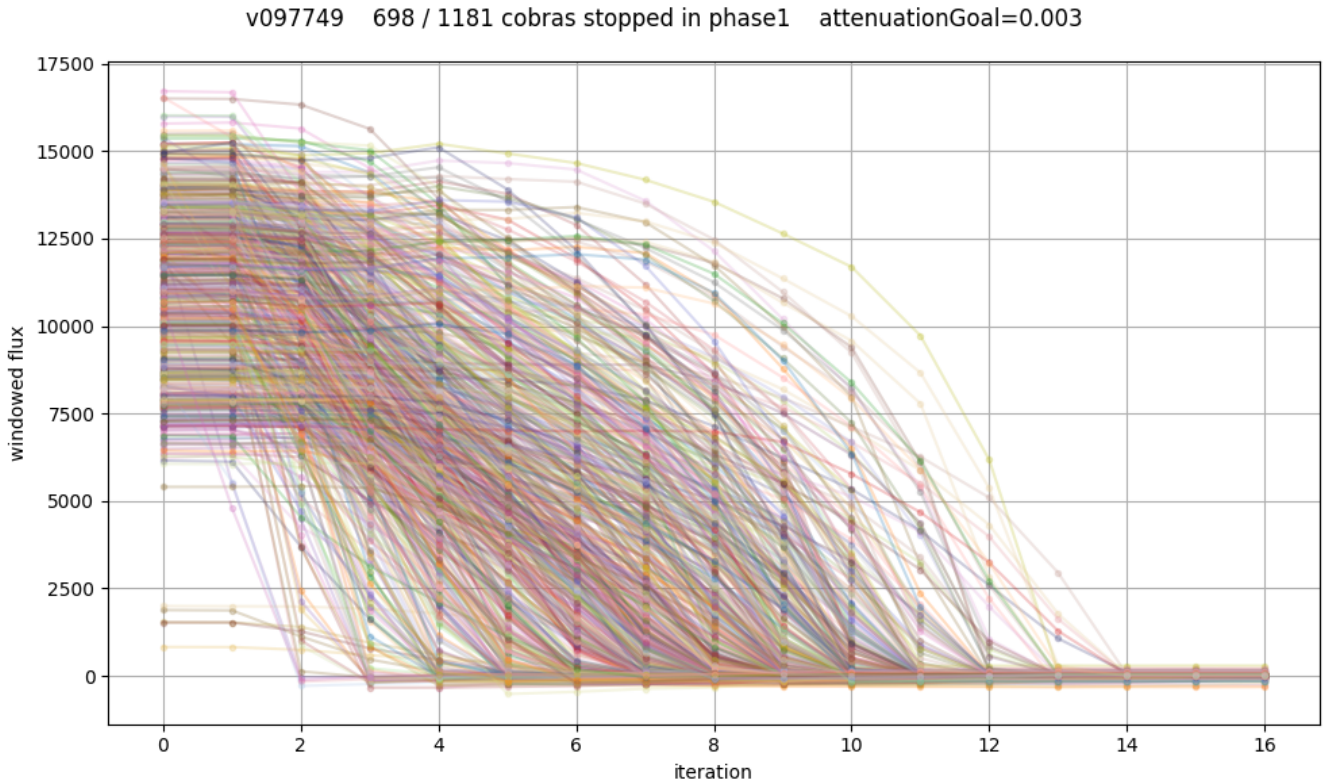
Near-dot convergence results



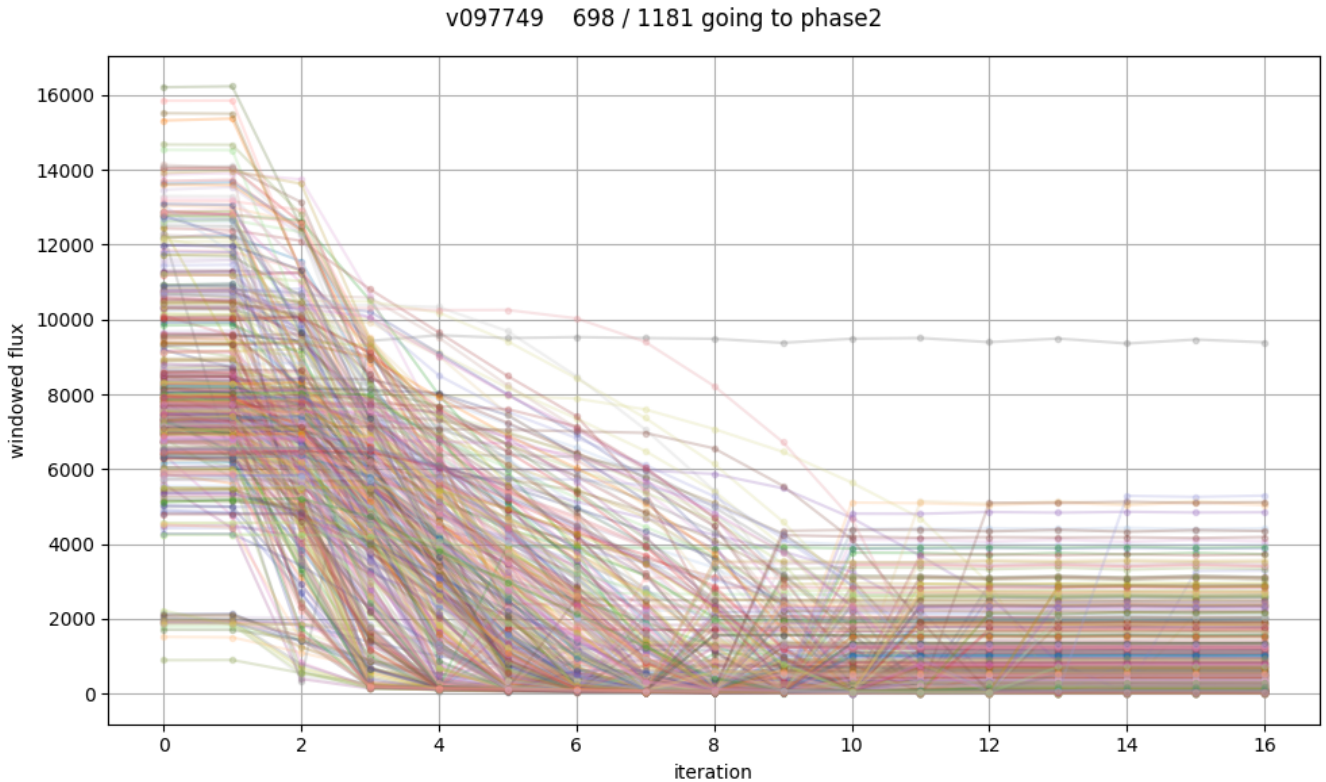
Convergence results look nominal.

Cobras stopped in phase 1



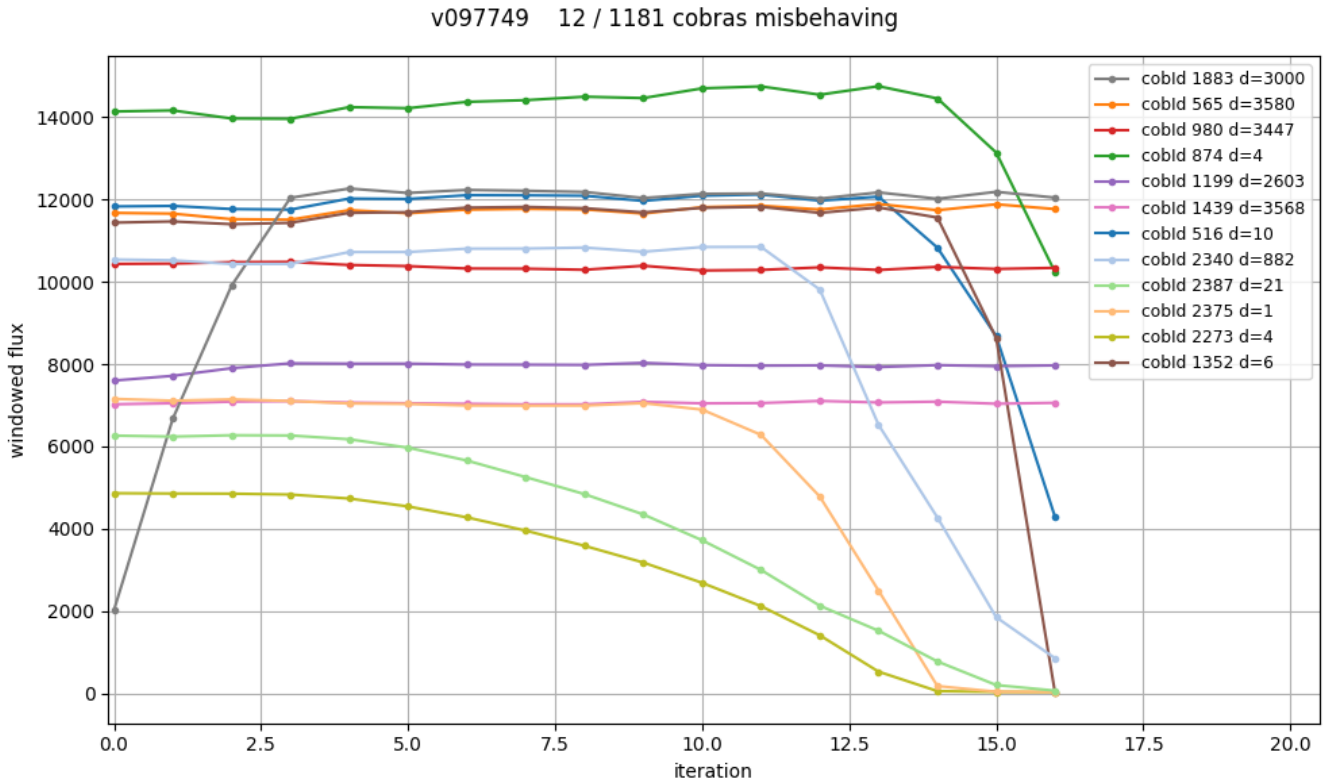
That's the cobras that reached a sufficient attenuation going through the dot moving phi in one direction.

Cobras going to phase 2



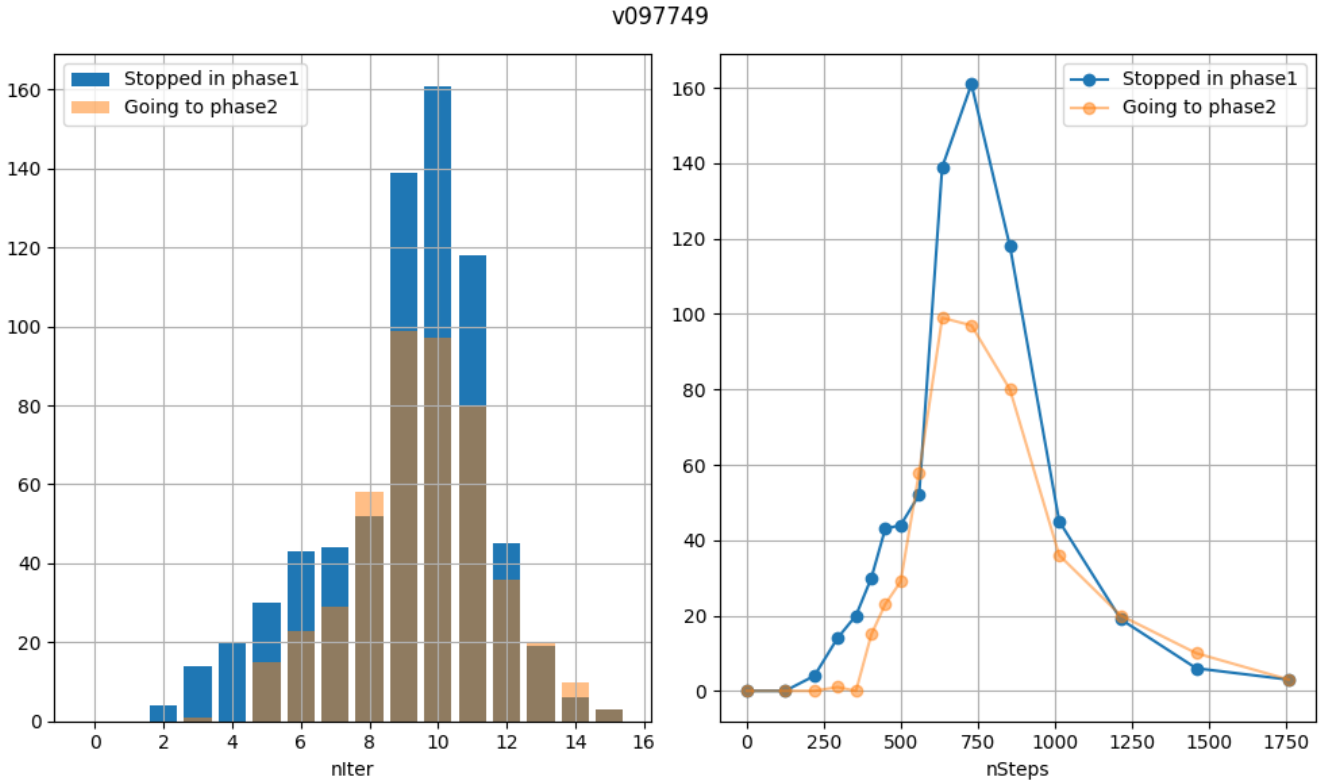
That's the cobras that have overshoot during phase 1, phi will go in the opposite direction in the next phase.

Cobras that did not behave as expected



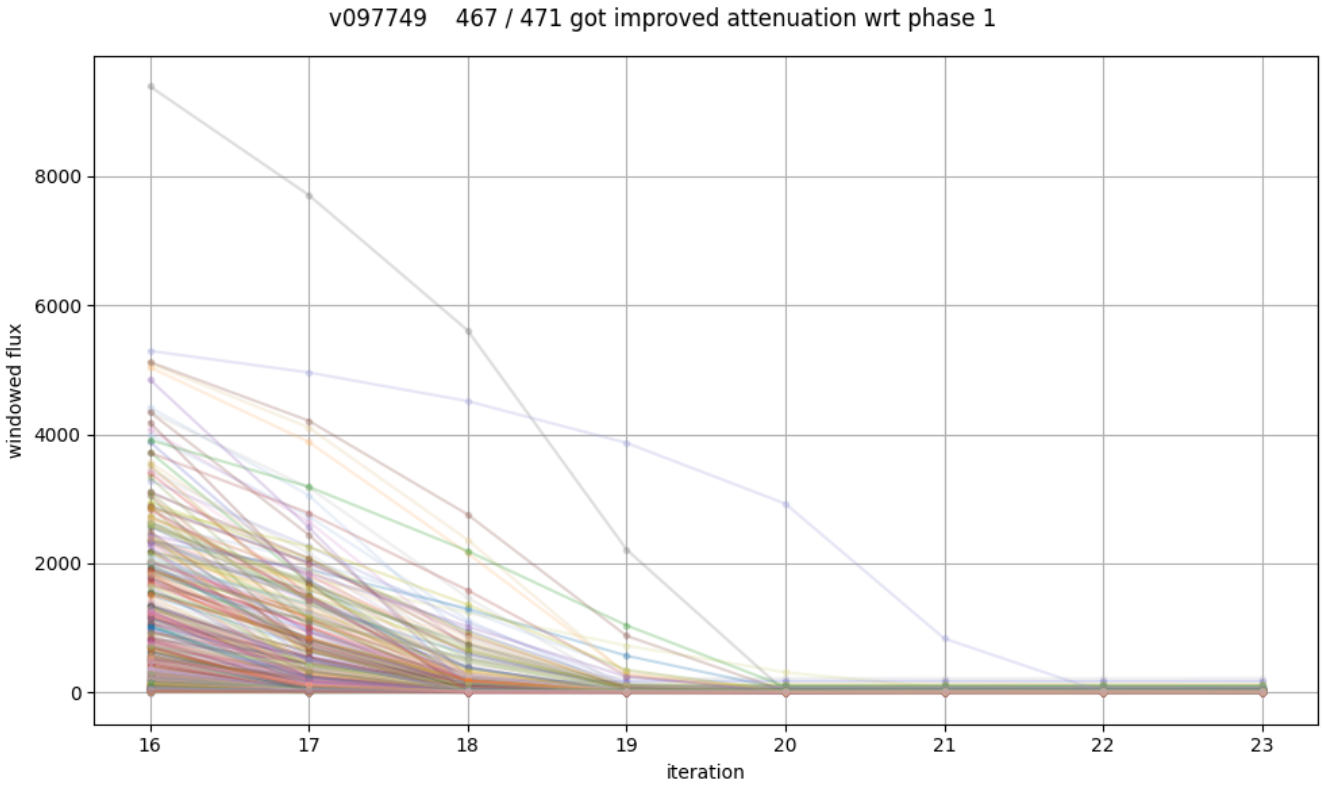
- 1 cobras started in the shadow of the dot.
- 4 Some cobras did not cross the dot.
- 0 cobras cross the dot partly.
- 2 cobras were going in but late.

How many iteration required to enter the dot

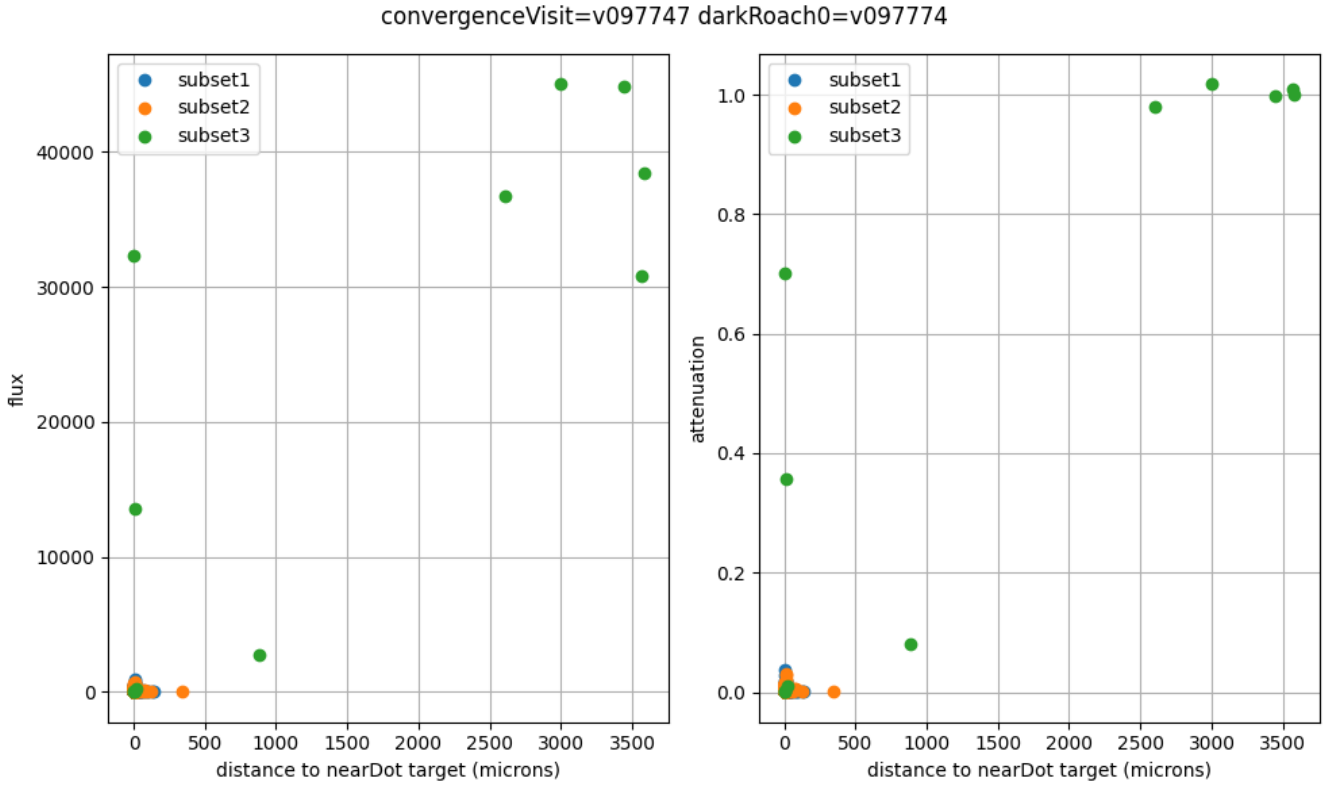


Right figure show you in terms of phi steps.

Cobras in phase 2

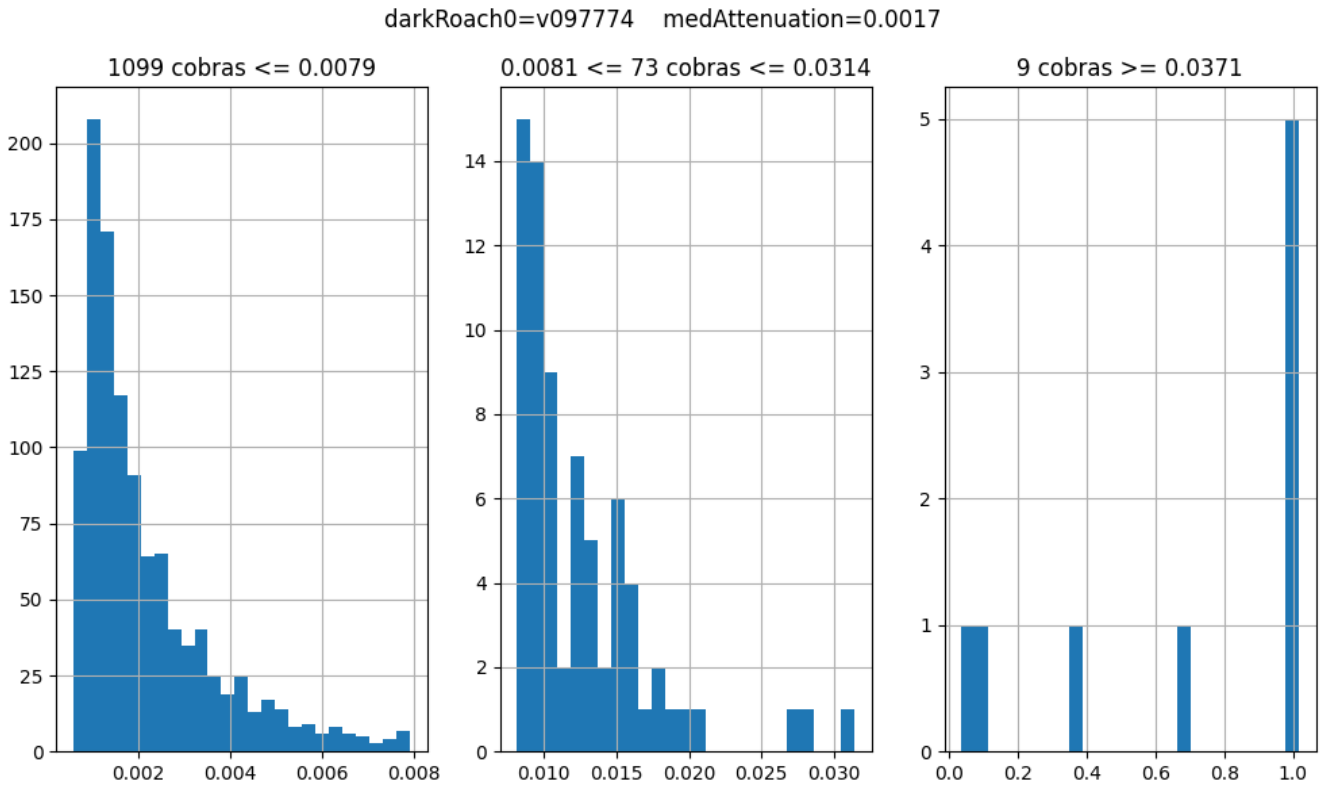


Flux in dark-roach vs distance in near-dot convergence



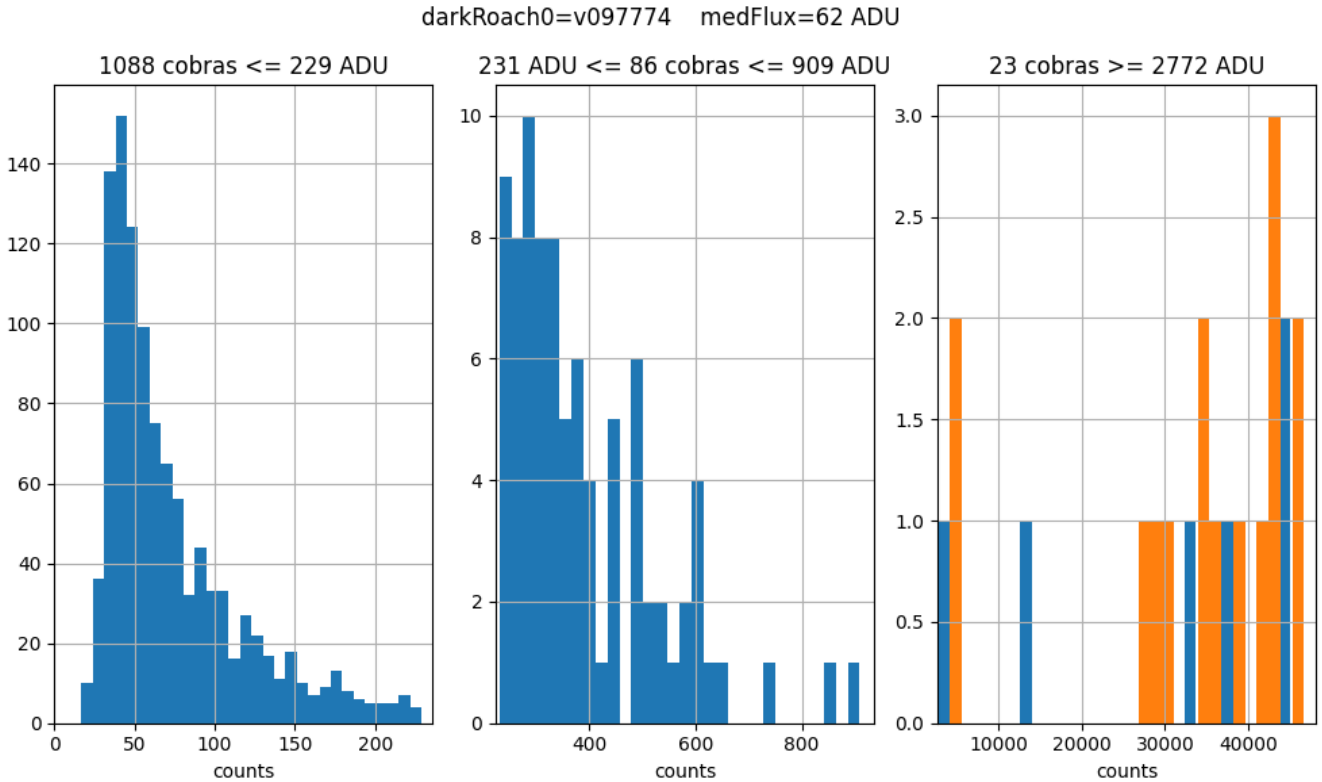
- We can observe that the tolerance to distance is quite high, problems start to appear when distance $>$0.7mm.
- We can also see there are a few converged cobras that end up having a high flux.

Final Attenuation for working cobras



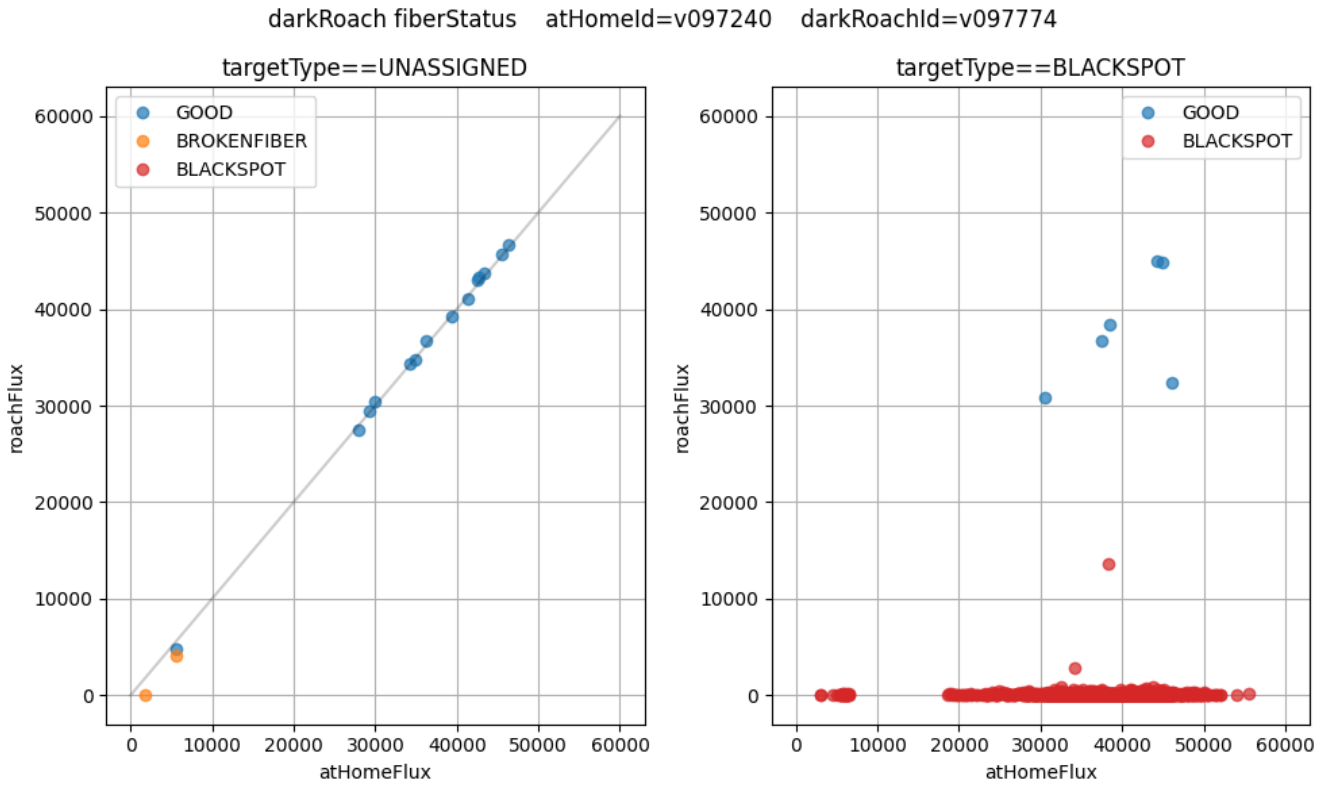
- Intrisic problem due to the extraction (bright neighbours, scattered light) can bias the results.

Final flux for all cobras



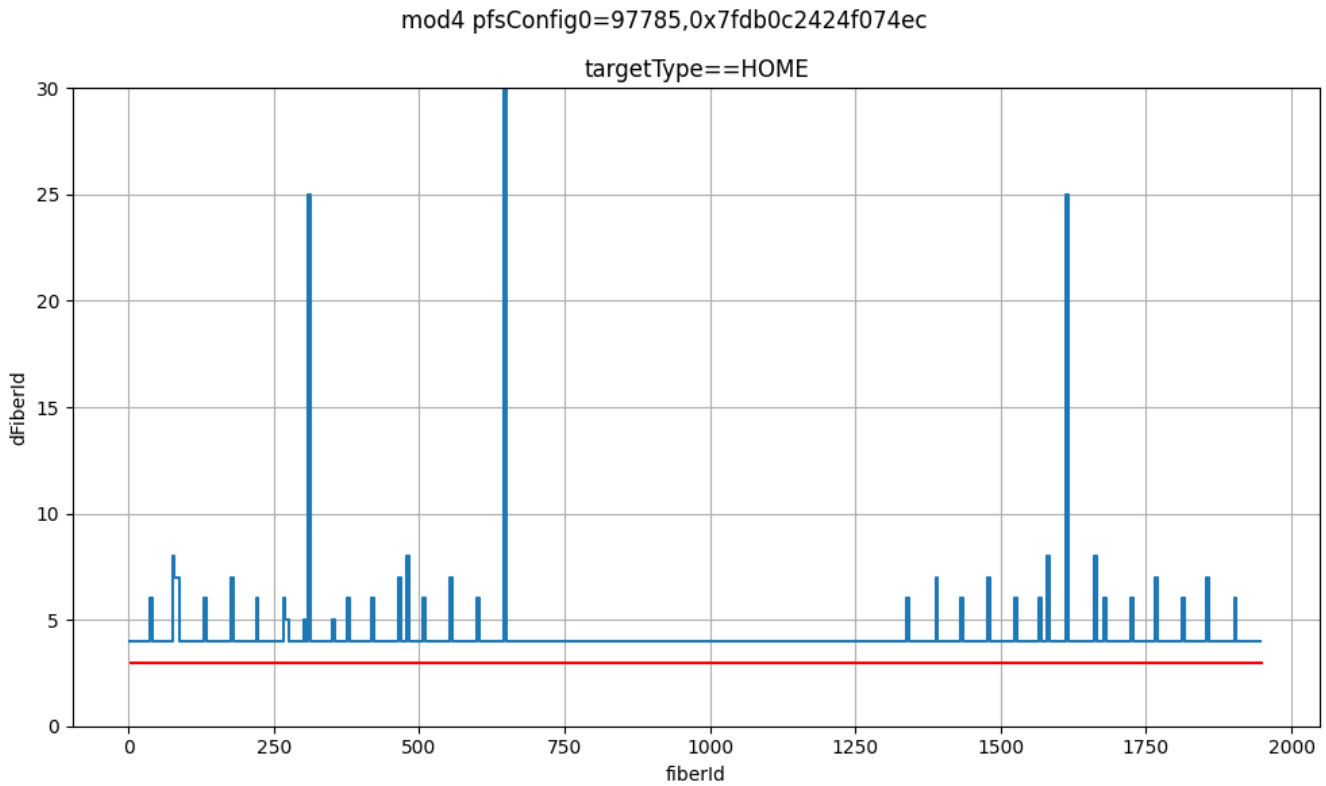
- Same conclusion as previous slide.
- intrisic problem due to the extraction (bright neighbours, scattered light) can increase the apparent flux.

DarkRoach PfsConfig fiberStatus wrt targetType



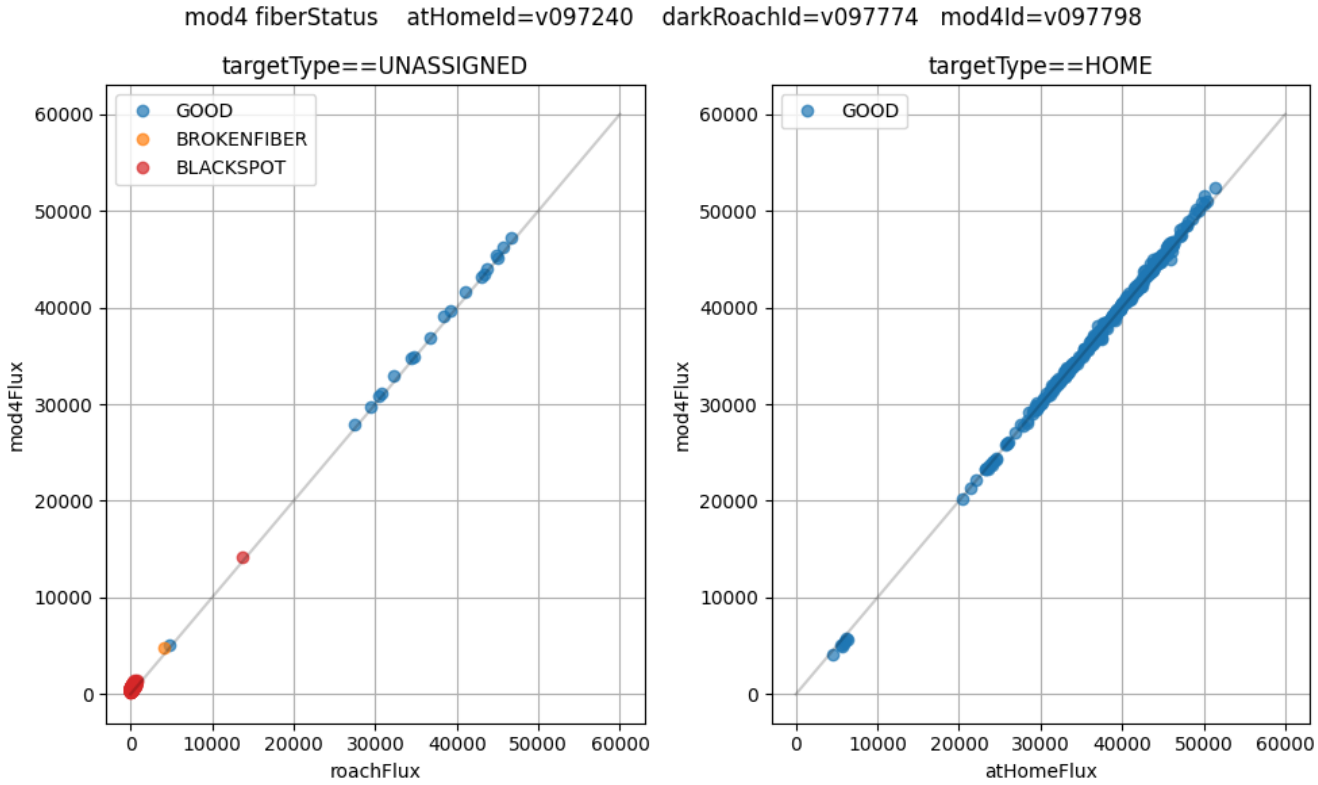
- Left plot let you check that cobras with targetType==UNASSIGNED have the $\approx$ same flux as in HOME.
- Right plot let you check that cobras with targetType==BLACKSPOT have ≈ 0, except few failures reported earlier.
- FiberStatus looks mostly correct, one fiber with high sps flux is labelled BLACKSPOT.

Mod4 PfsDesign



- This show you dFiberId(fiberId[i+1] - fiberId[i]) for the fibers that are revealed.
- In the context of MOD4, it should be at least 4.
- The PfsDesign is correct.

Mod4 PfsConfig fiberStatus wrt targetType

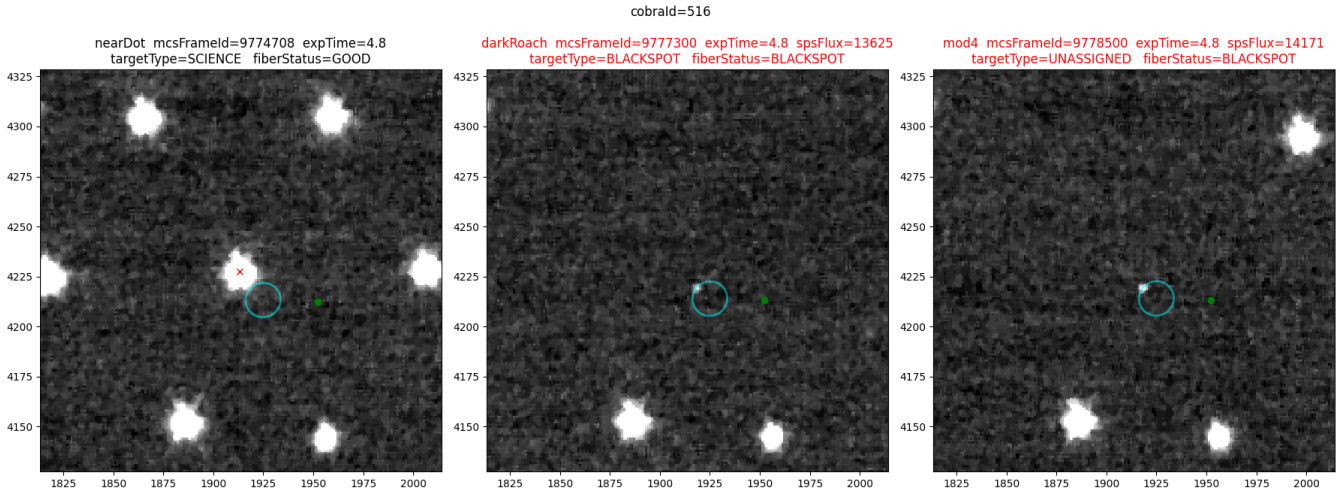


- Left plot let you check that cobras with targetType==UNASSIGNED have the $\approx$ same flux as in DarkRoach.
- Right plot let you check that cobras with targetType==HOME have the $\approx$ same flux measured in home.
- FiberStatus looks mostly correct, one fiber with high sps flux is labelled BLACKSPOT.

Conclusion

- Convergence was nominal.
- DotRoach worked well, out of 1174/1181 cobras were hidden.
- DarkRoach pfsConfig.targetType/fiberStatus is correct.
- Mod4 PfsDesign is correct.
- Mod4 PfsConfig.fiberStatus is correct.

Cobrald 516


cobrald=516
nearDot mcsFrameId=9774708 expTime=4.8
targetType=SCIENCE fiberStatus=GOOD
darkRoach mcsFrameId=9777300 expTime=4.8 spsFlux=13625
targetType=BLACKSPOT fiberStatus=BLACKSPOT
mod4 mcsFrameId=9778500 expTime=4.8 spsFlux=14171
targetType=UNASSIGNED fiberStatus=BLACKSPOT
4325
4300
4275
4250
4225
4200
4175
4150
1825
1850
1875
1900
1925
1950
1975
2000