

A decorative graphic on the left side of the slide, consisting of a network of white lines and small circles on a blue gradient background, resembling a circuit board or a stylized tree structure.

POPLAR UPDATE

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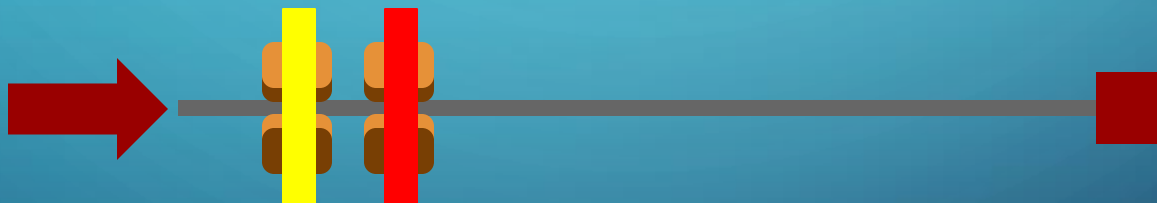
05/03/2026

The background is a blue gradient with decorative white circuit-like lines in the corners. The lines consist of straight segments and small circles, resembling a stylized electronic circuit.

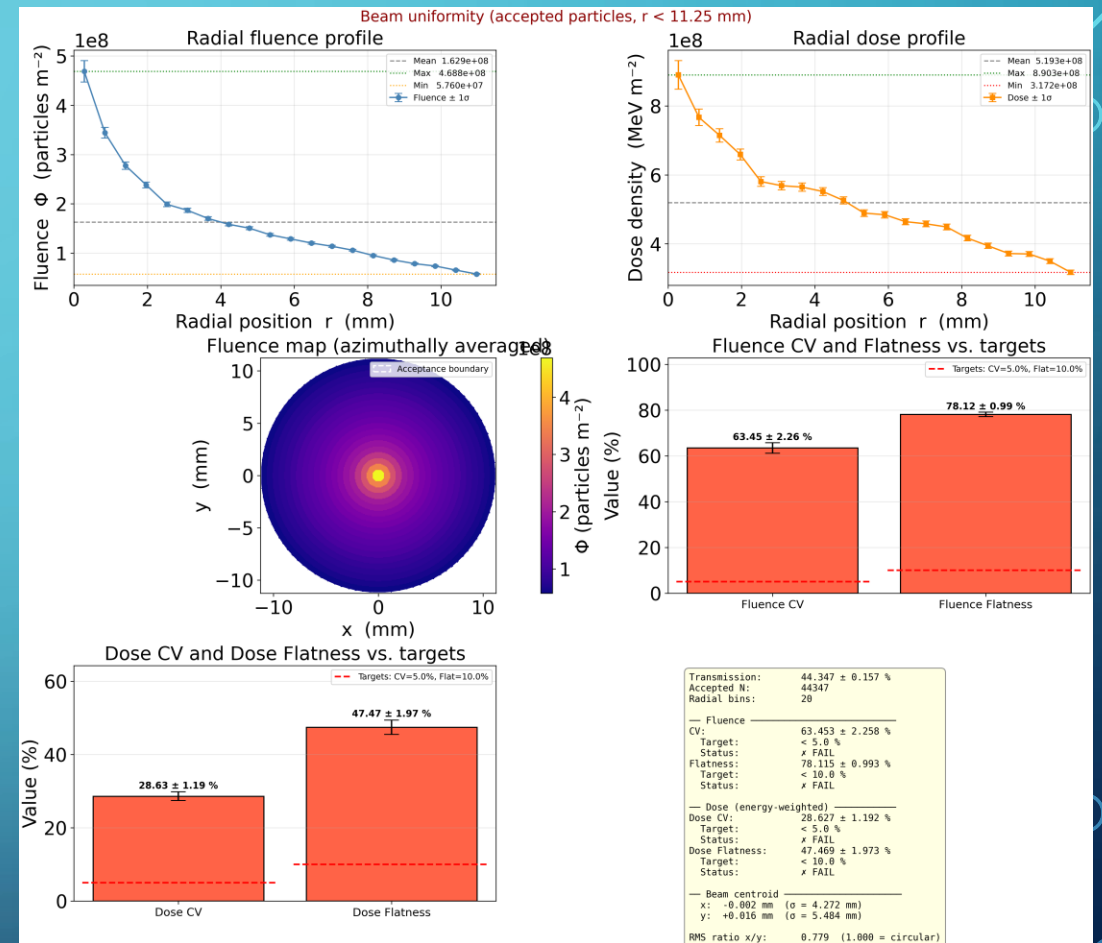
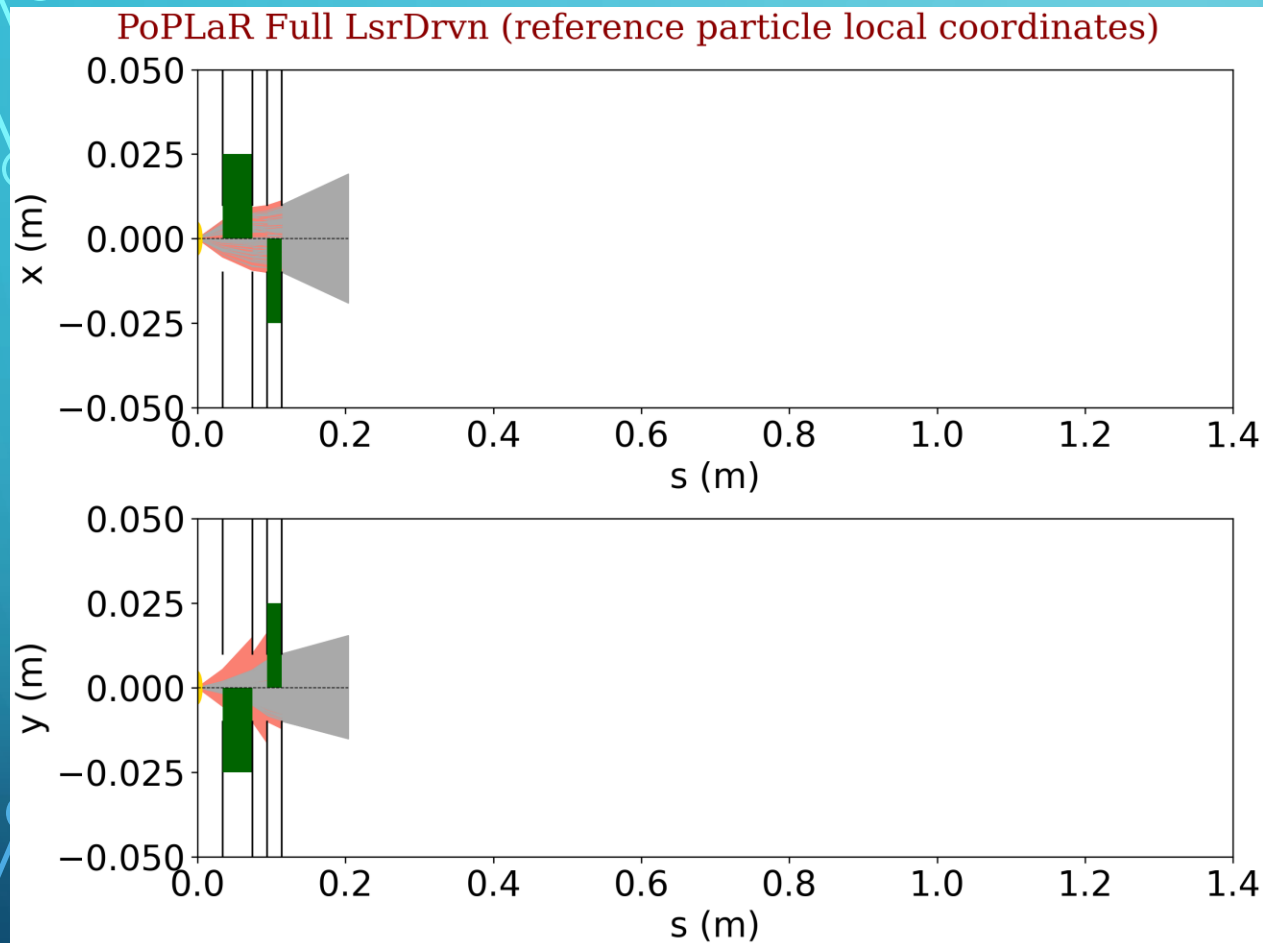
1
2 QUAD

2 QUAD SET UP

Key:  Focus Quadrupole  Defocus Quadrupole

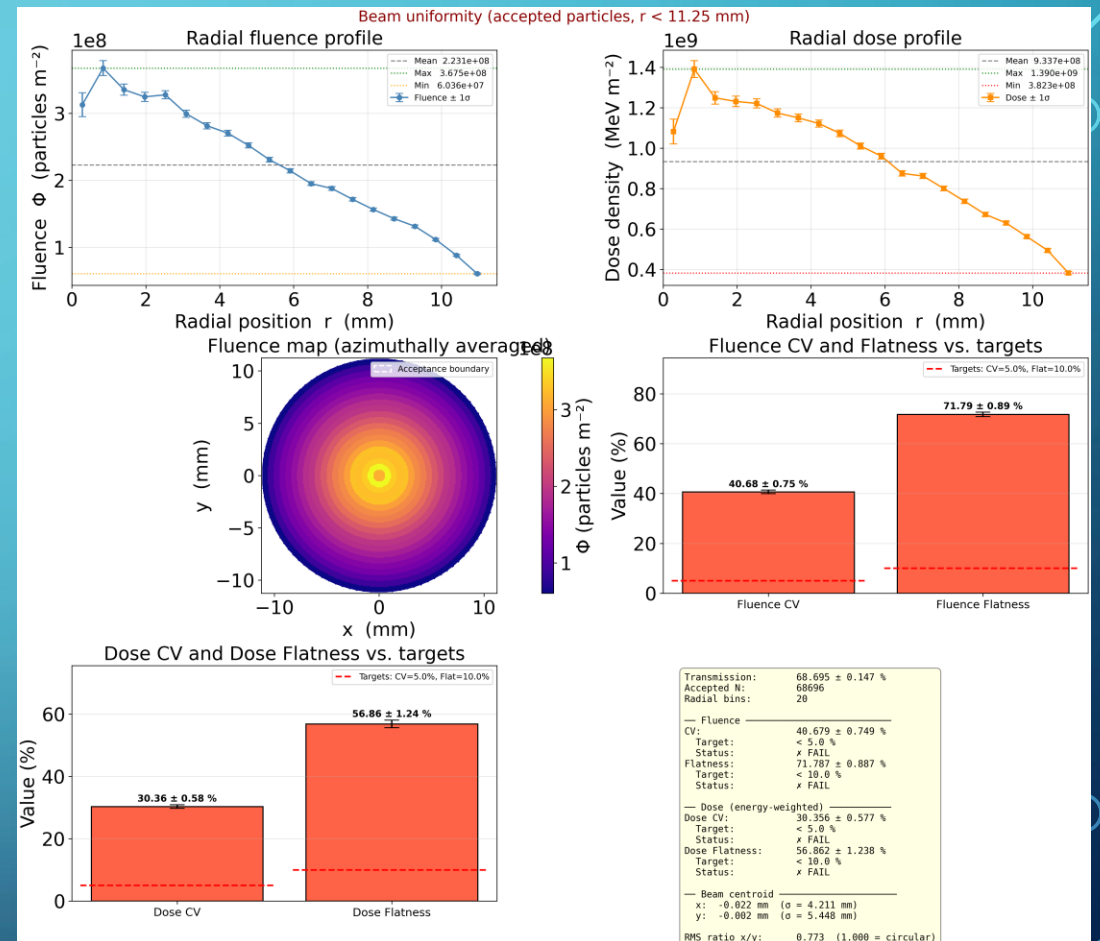
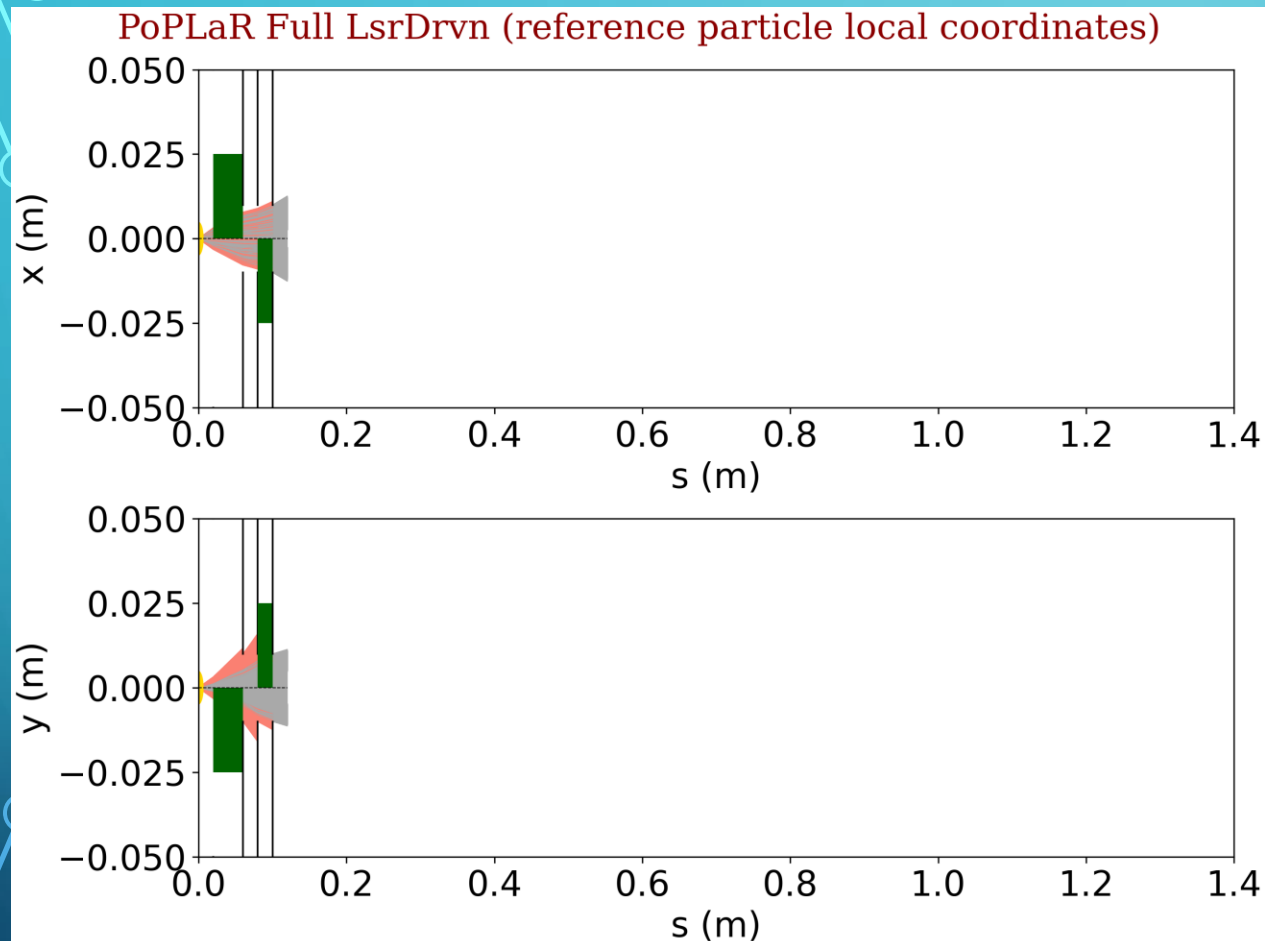


2 QUAD (TRANSMISSION OPTIMISATION)



Transmission: 44.4 ± 0.2 %
 CV: 28.5 ± 1.2 %
 Flatness: 47.5 ± 2.0 %

2 QUAD (CV OPTIMISATION)



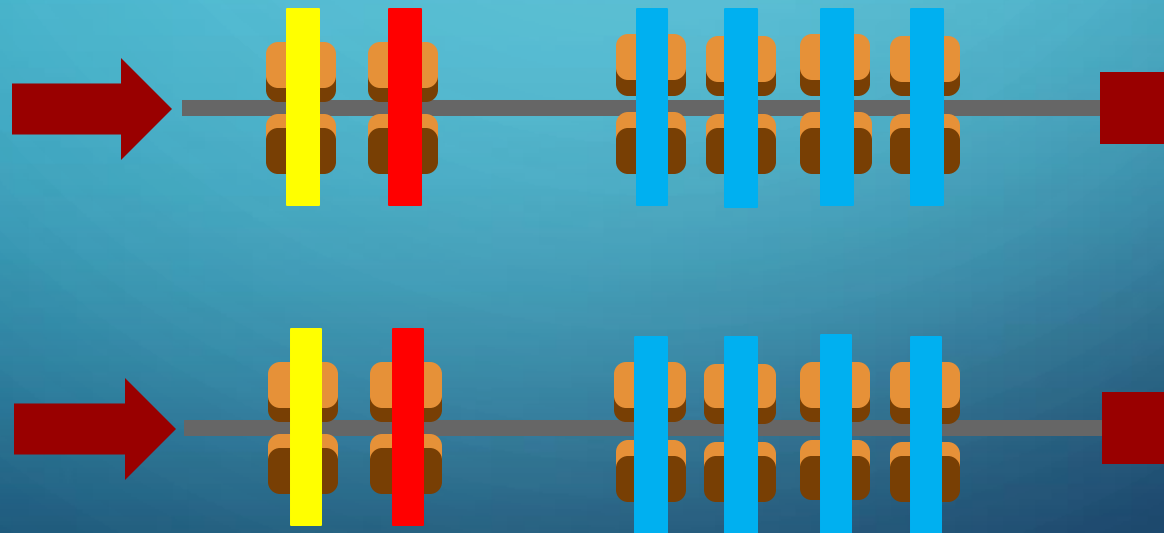
Transmission: 68.7 \pm 0.2 %
 CV: 30.4 \pm 0.6 %
 Flatness: 56.9 \pm 1.2 %

The background is a blue gradient with faint concentric circles. In the corners, there are white line-art illustrations of circuit boards or neural networks, featuring lines and small circles.

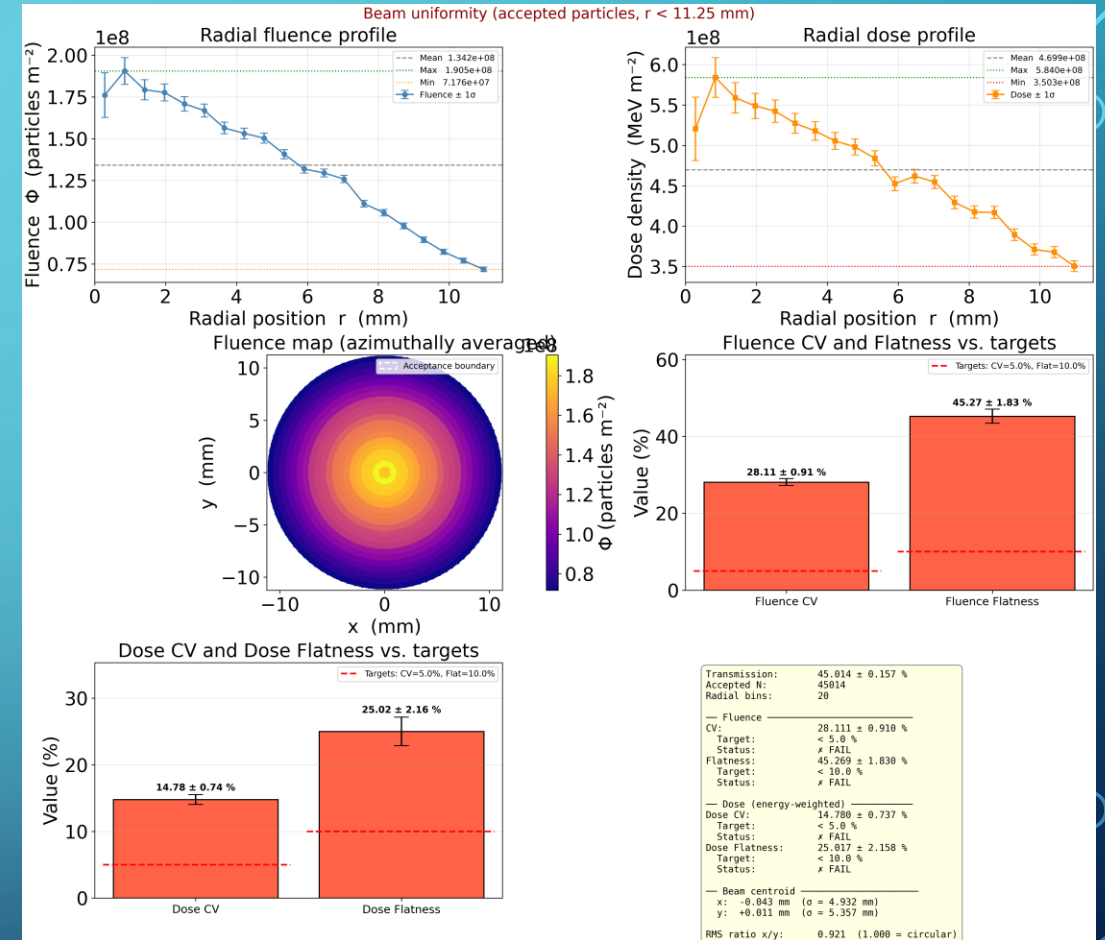
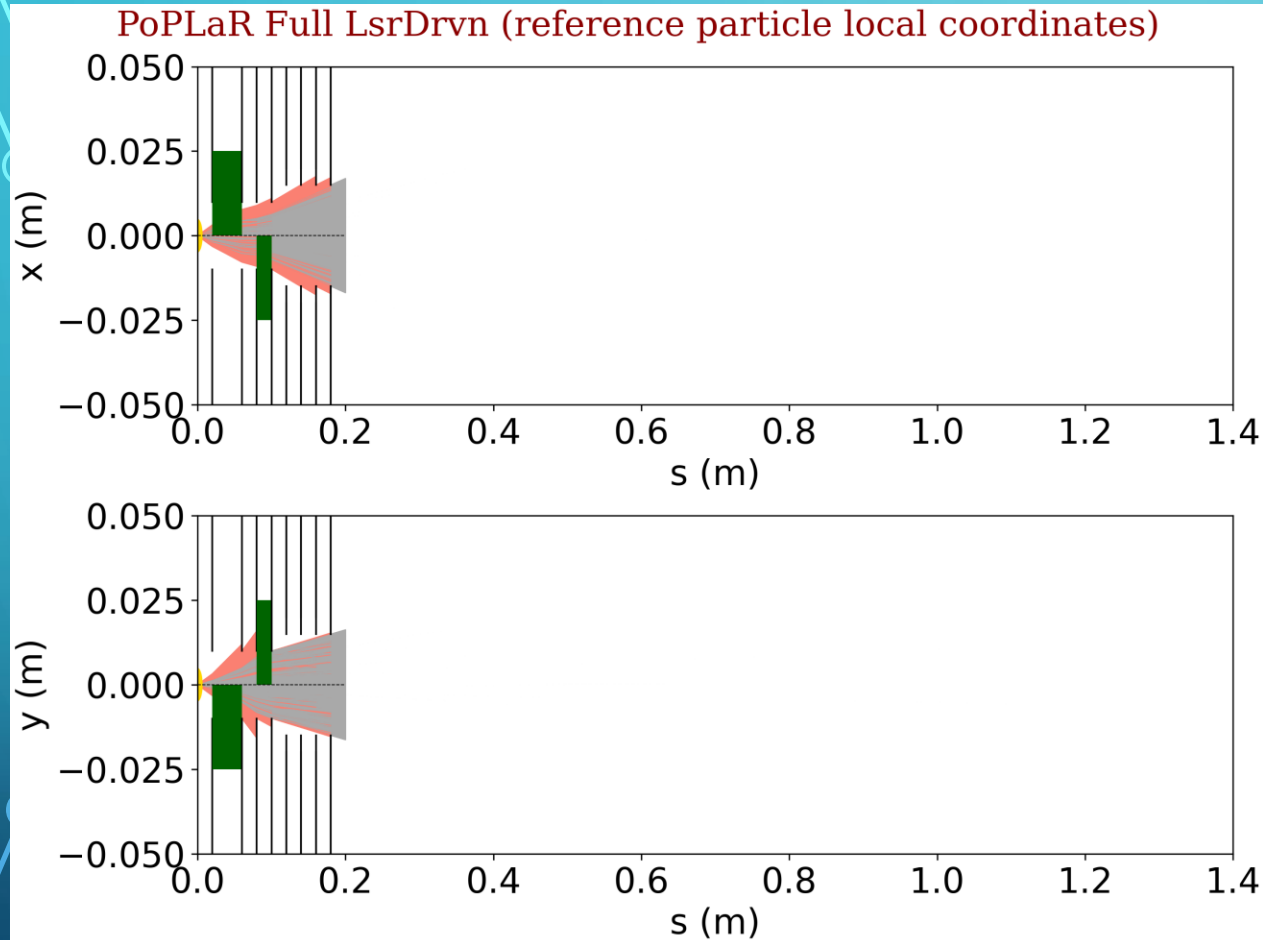
2

2 QUAD 4 DIPOLES

2 QUAD 4 DIPOLE SET UP



2 QUAD 4 DIPOLE (TRANSMISSION OPTIMISATION)



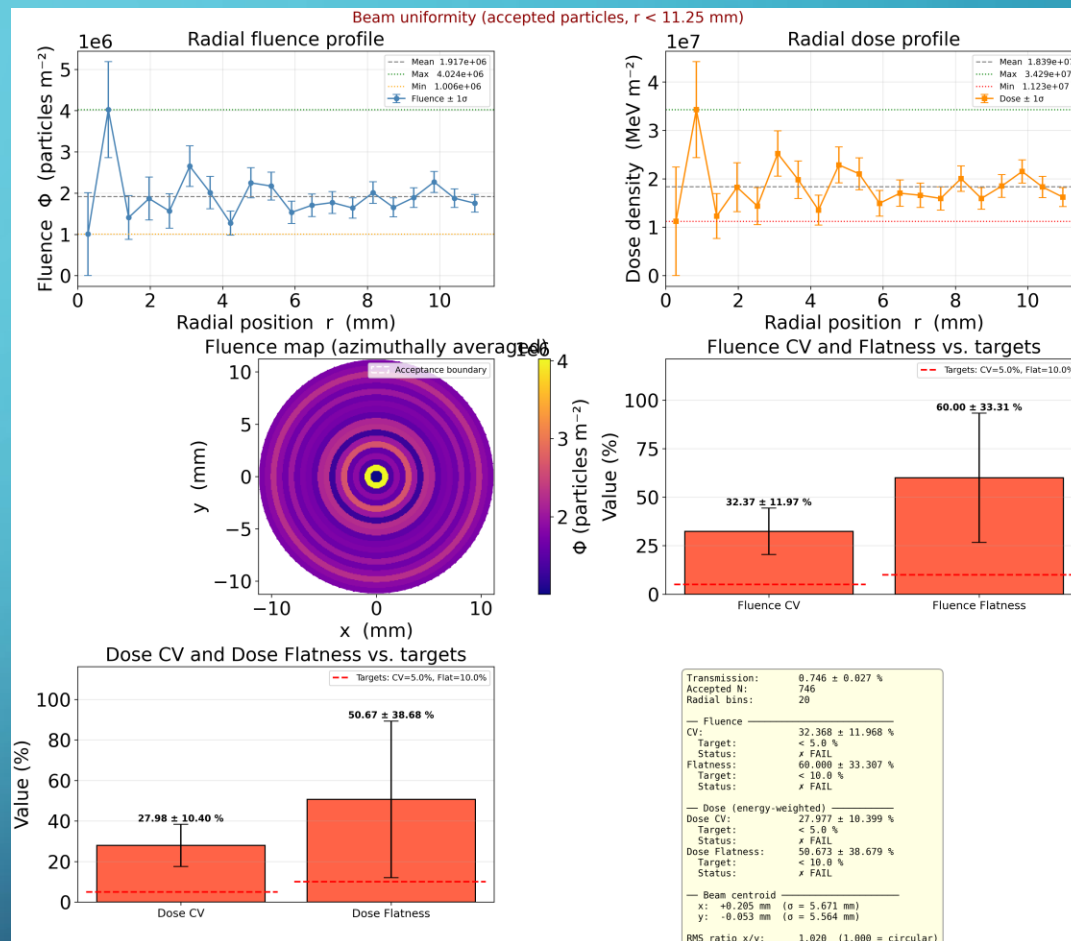
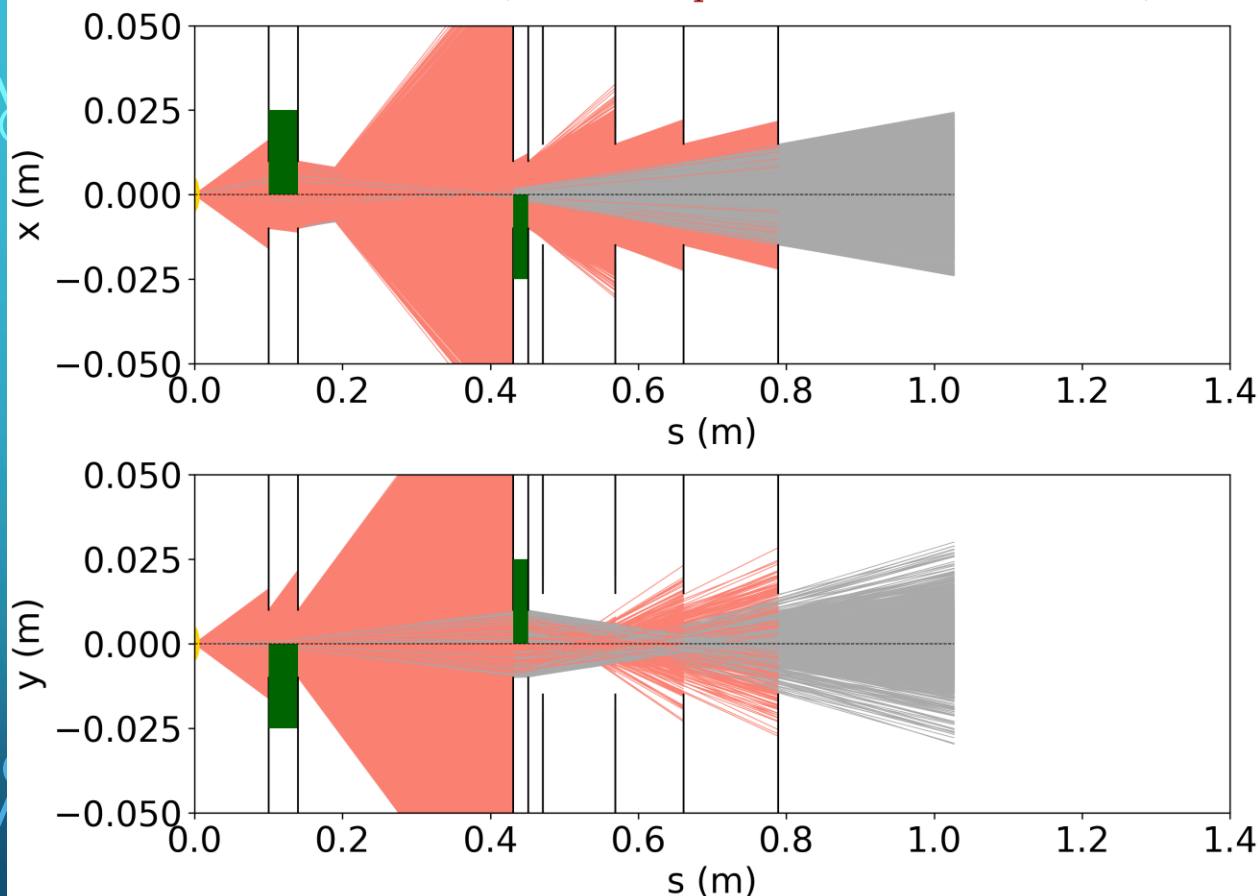
Transmission: 45.0 \pm 0.2 %

CV: 14.8 \pm 0.7 %

Flatness: 25.0 \pm 2.2 %

2 QUAD 4 DIPOLE (CV OPTIMISATION)

PoPLaR Full LsrDrvn (reference particle local coordinates)



Transmission: 0.75 ± 0.03 %
 CV: 28.0 ± 10.4 %
 Flatness: 50.7 ± 38.7 %

The background is a blue gradient with decorative white circuit-like lines in the corners. The lines consist of straight segments and small circles, resembling a stylized electronic circuit board.

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ANY QUAD COMBOS

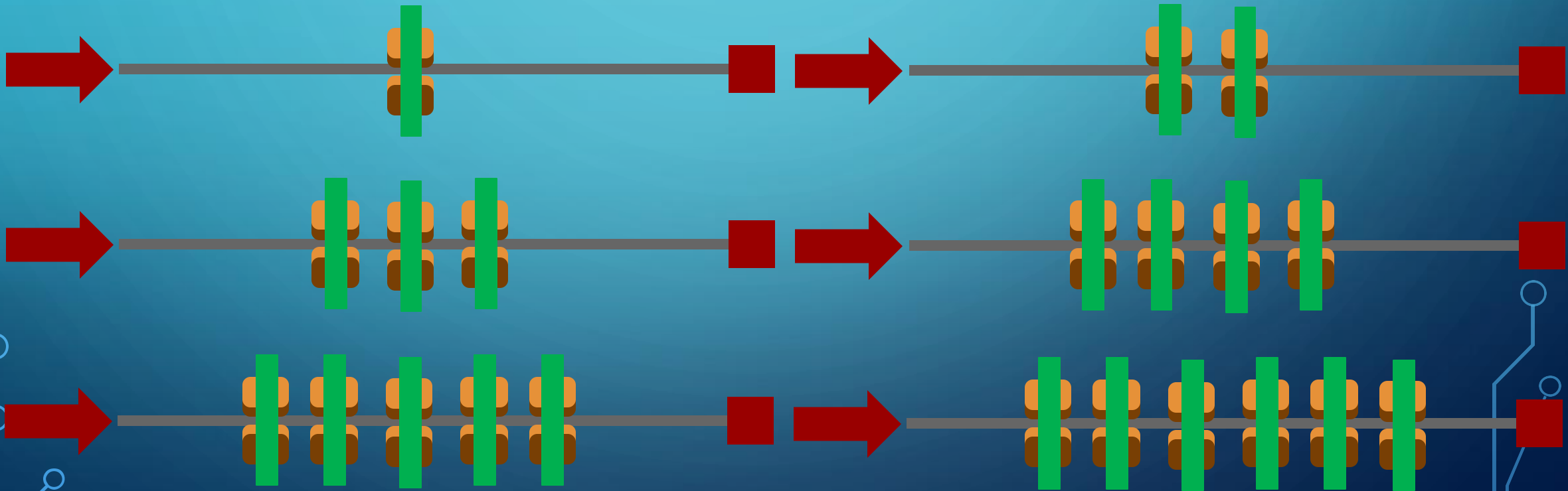
ANY QUAD SET UP

Key:

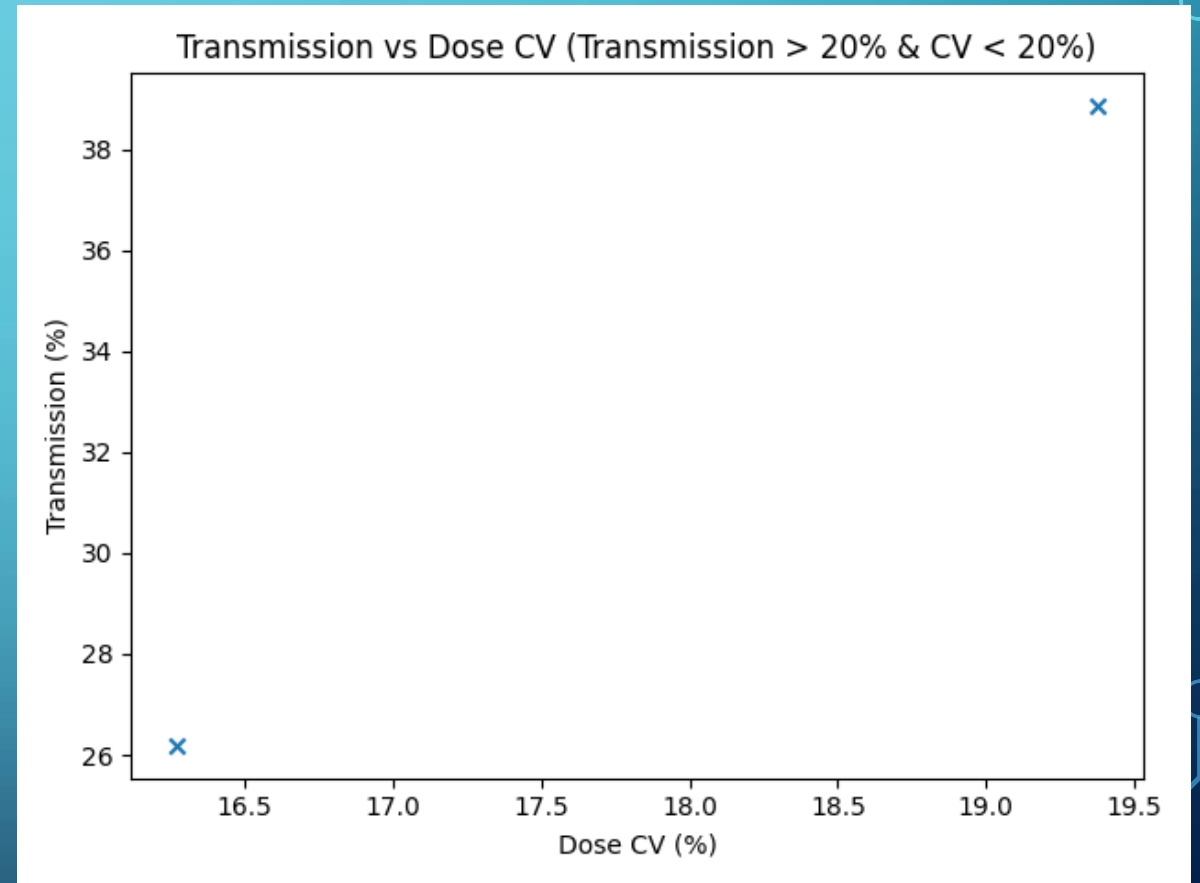
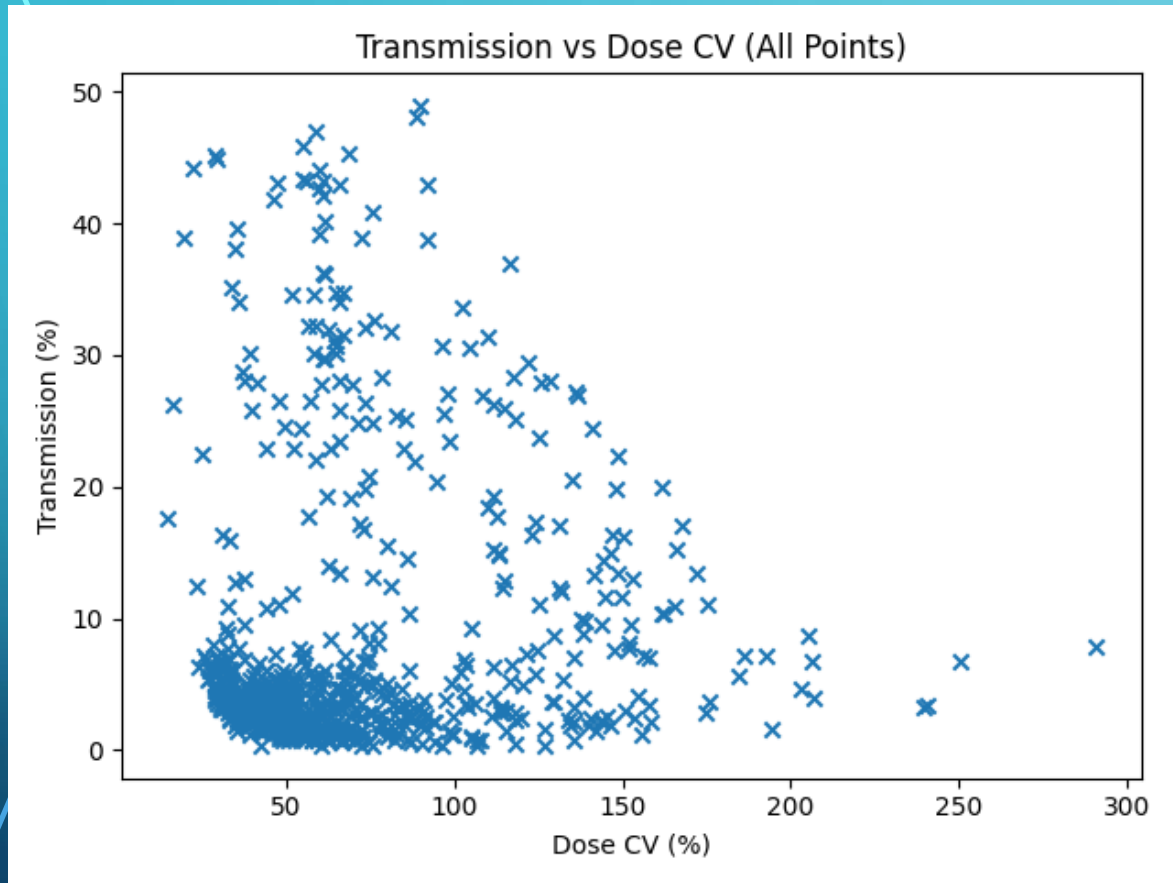


F or D Quadrupole

- Can have between 1 and 6 Quadrupoles
- All FD orders investigated



ANY QUAD (TRANSMISSION OPTIMISATION)

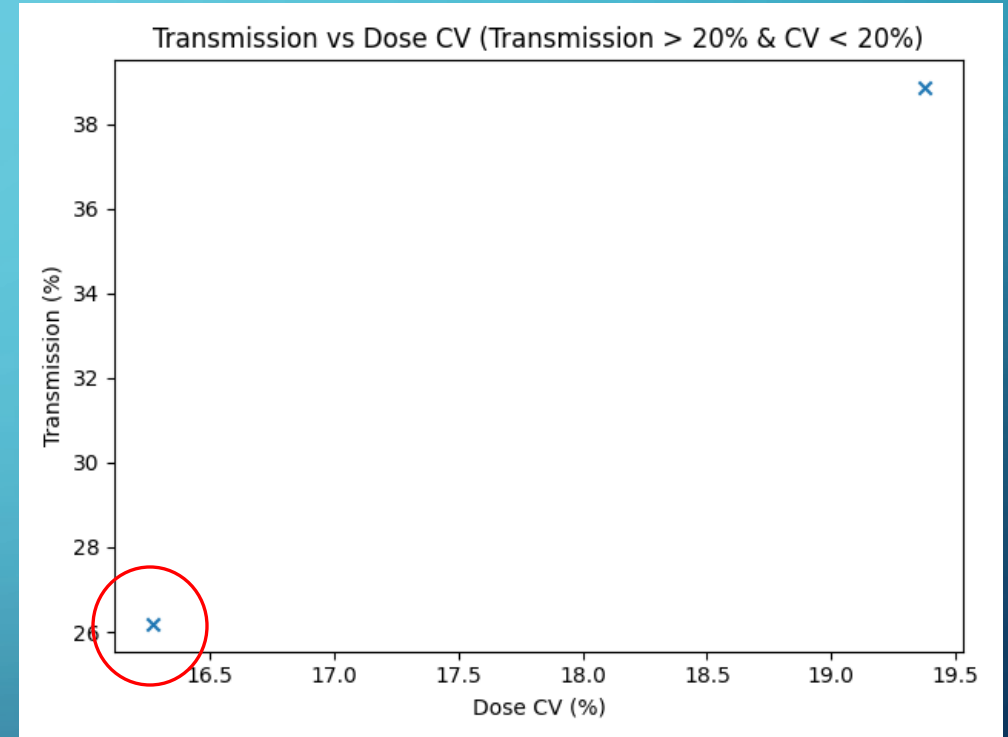
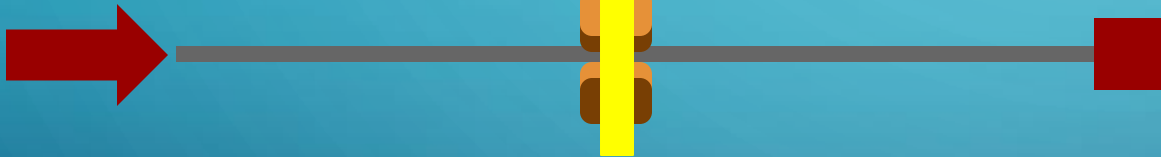


ANY QUAD (TRANSMISSION OPTIMISATION)

Key:

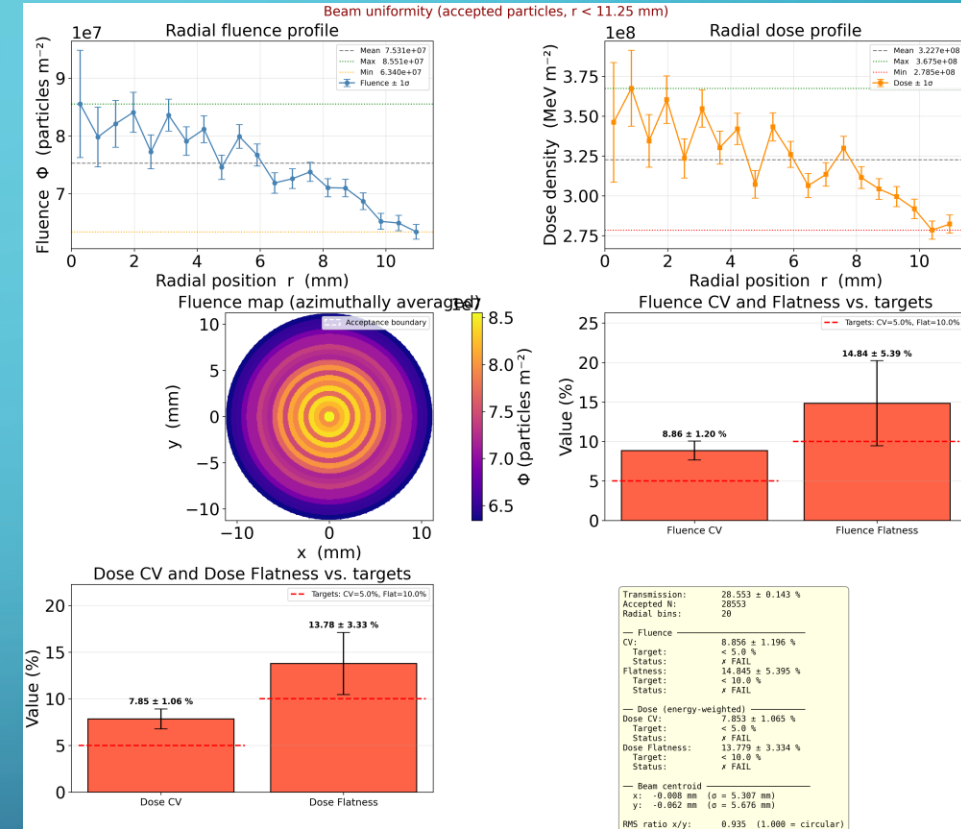
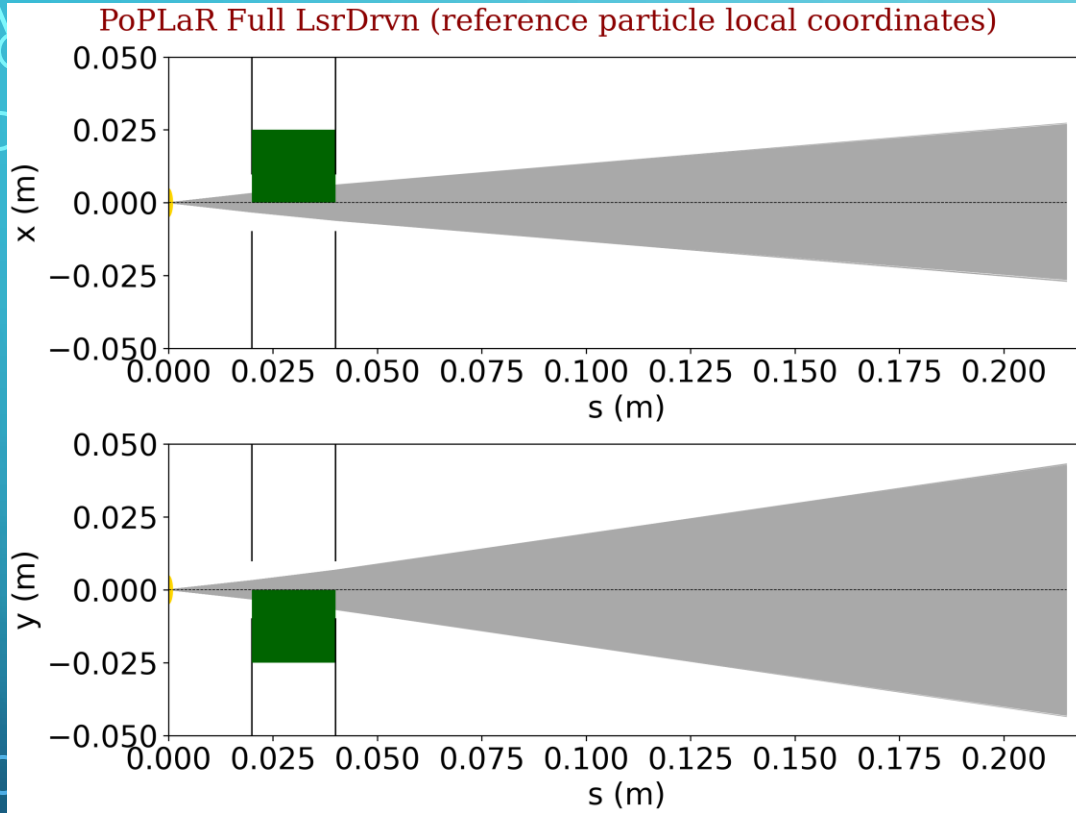


Focus Quadrupole



WINNING COMBO 1

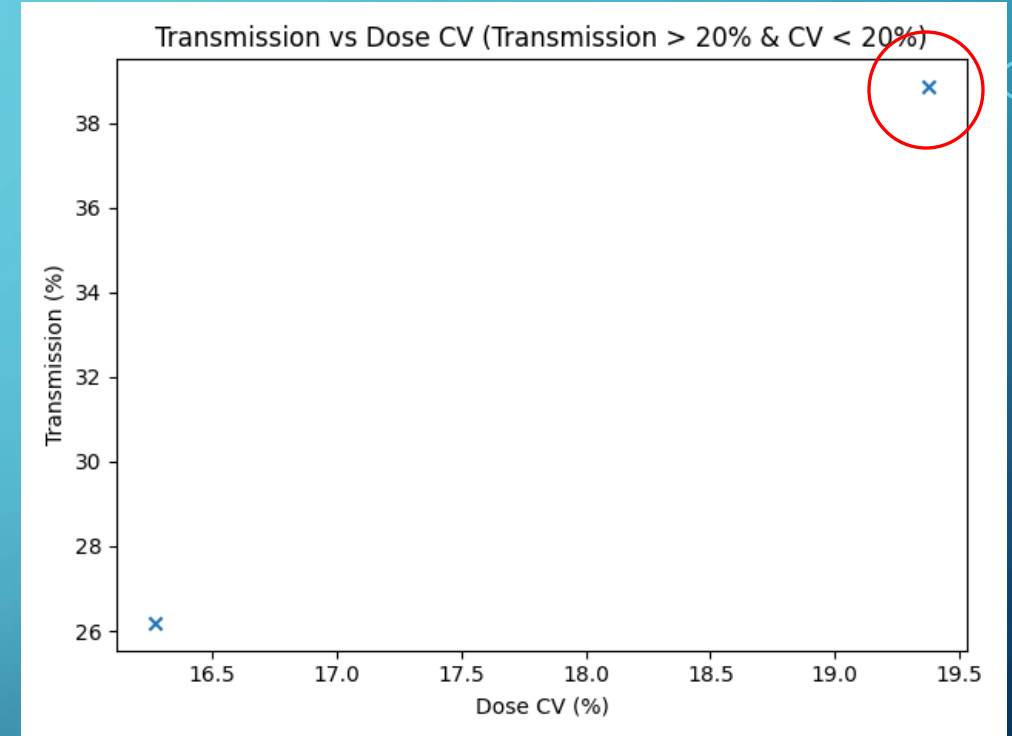
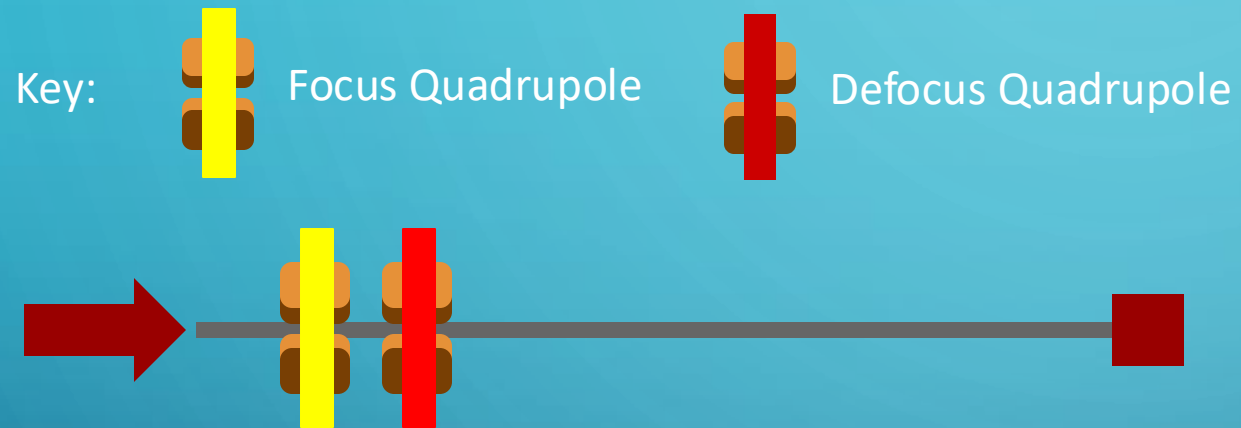
ANY QUAD (TRANSMISSION OPTIMISATION)



WINNING COMBO 1

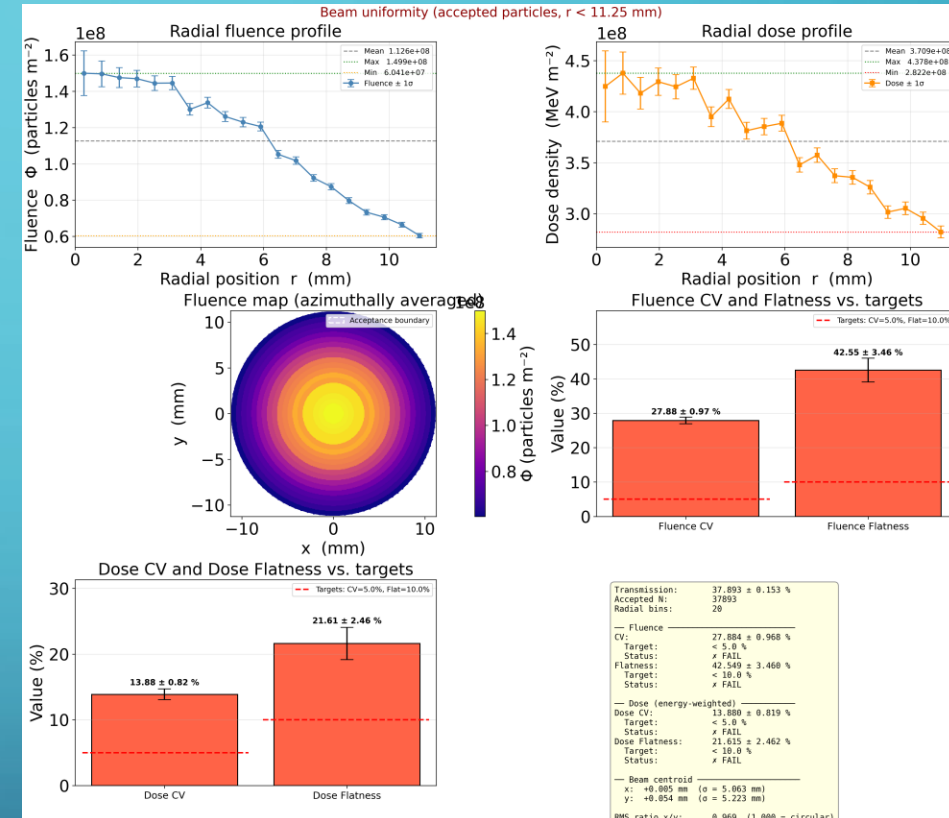
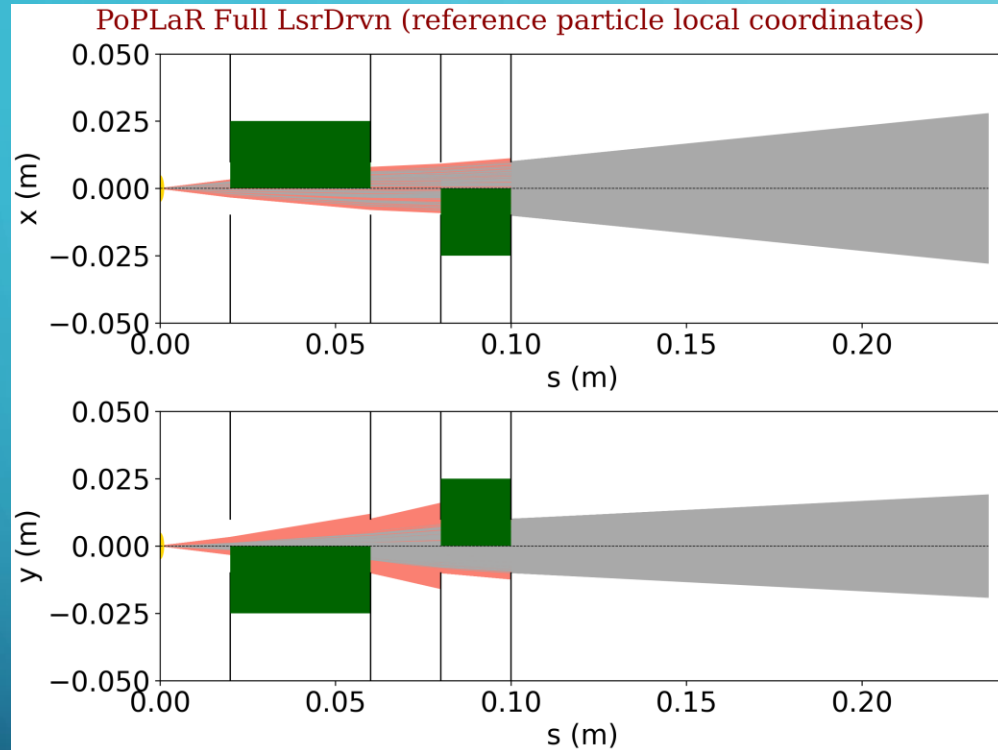
Transmission: 28.5 ± 0.1 %
 CV: 7.9 ± 1.1 %
 Flatness: 13.8 ± 3.3 %

ANY QUAD (TRANSMISSION OPTIMISATION)



WINNING COMBO 2

ANY QUAD (TRANSMISSION OPTIMISATION)



WINNING COMBO 2

Transmission: 37.9 ± 0.2 %
 CV: 13.9 ± 0.8 %
 Flatness: 21.6 ± 2.4 %

The background is a blue gradient with decorative white circuit-like lines in the corners. The lines consist of straight segments and small circles, resembling a stylized electronic circuit.

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NEXT STEPS

SUMMARY

- 4 dipole chicane seems to improve CV & flatness in 2 quad set up
- Best combo= single 2cm focussing quadrupole

NEXT STEPS

- Optimise a single focus quadrupole
- Optimise a single focus quadrupole and also dipoles with a weighted cost function for both CV and transmission
- See what is possible with the beamline