1 3D-neutronics

1.1 3D-assembly-30-homo-eig

- Mesh: *3D-assembly-30deg-reflec.msh*
- Eigenvalue problem.

Figure 1 displays the geometry. Figure 2 shows the results. Figure 3 shows the eigenvalue vs number of iterations.

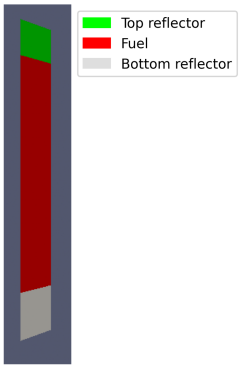


Figure 1: *3D-assembly-30deg-reflec* scaled down geometry.

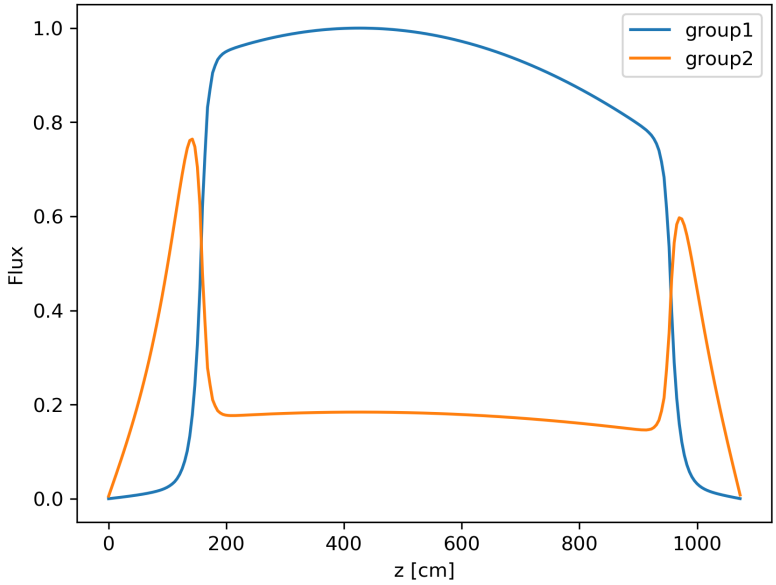


Figure 2: Group 1 and 2 steady-state axial flux.

1.2 3D-assembly-homo-action

- Mesh: *3D-assembly-30deg-reflec.msh*
- Transient problem.

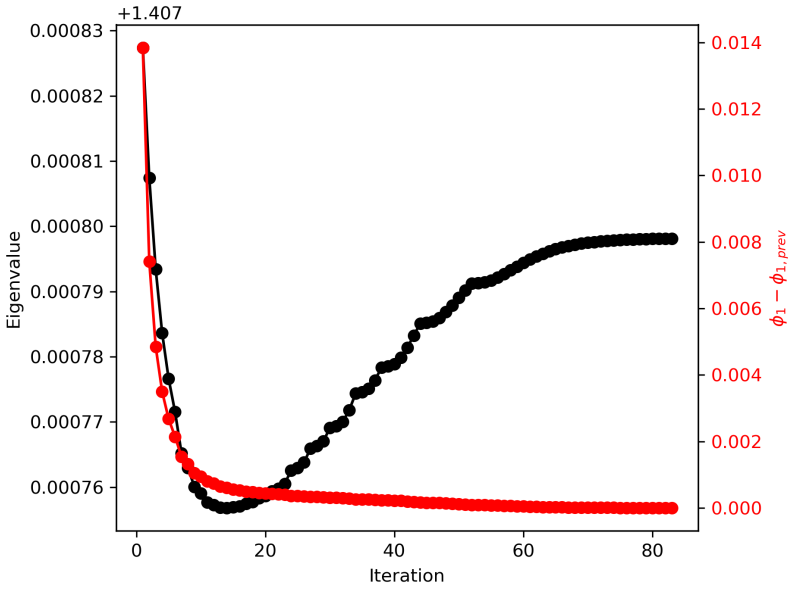


Figure 3: Eigenvalue calculation convergence.

- Fuel, Moderator, and coolant are homogenized.

Figure 1 displays the geometry. Figure 4 shows the results.

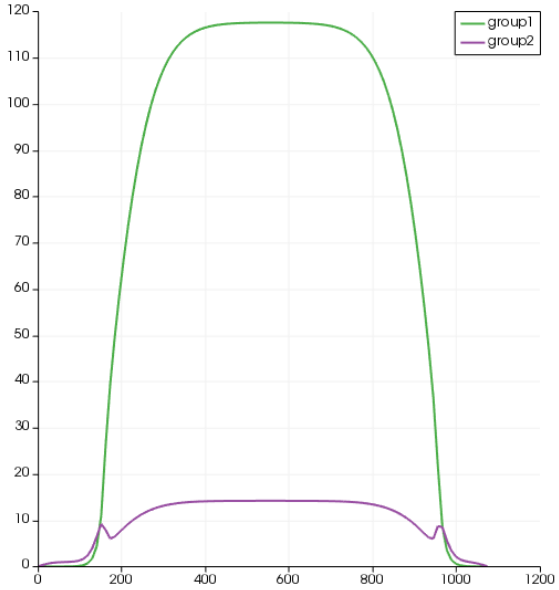
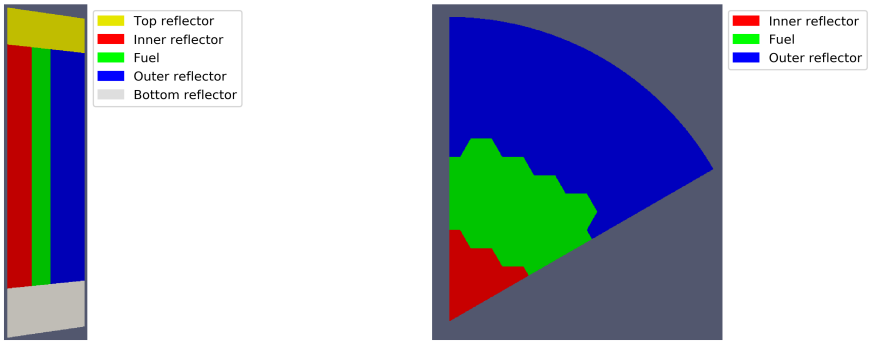


Figure 4: Group 1 and 2 axial flux at 1 msec.

1.3 3D-fullcore-60-homo-eig

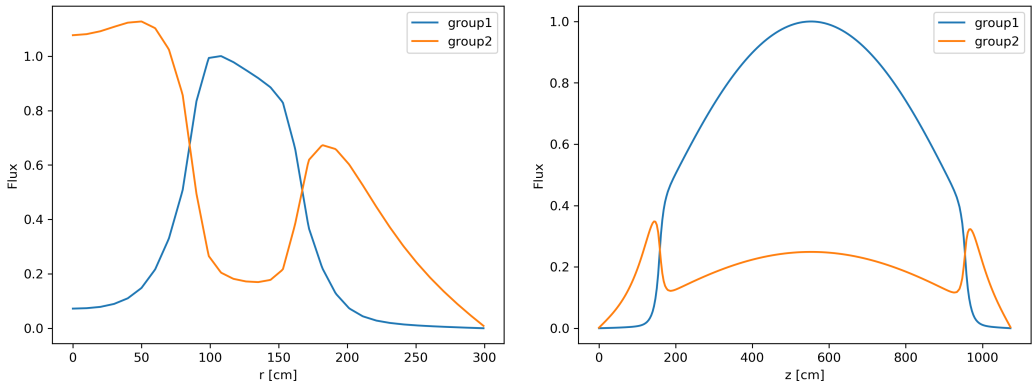
- Mesh: *3D-fullcore-60-homo.msh*
- Eigenvalue problem.

Figure 5 displays the geometry. Figure 6 shows the results.



(a) XZ-plane. (b) XY-plane.

Figure 5: *3D-fullcore-60-homo* geometry.



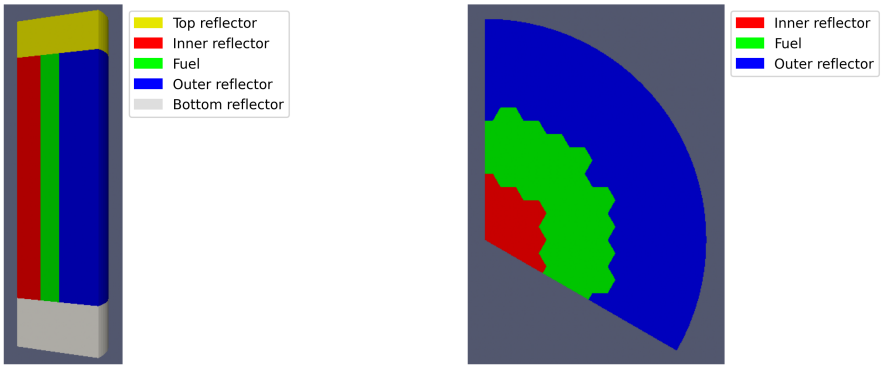
(a) Radial flux between points (0,0,400) and (259,150,400). (b) Axial flux between points (85,55,0) and (85,55,1073).

Figure 6: Group 1 and 2 steady state axial fluxes. $K_{eff} = 1.430523$.

1.4 3D-fullcore-120-homo

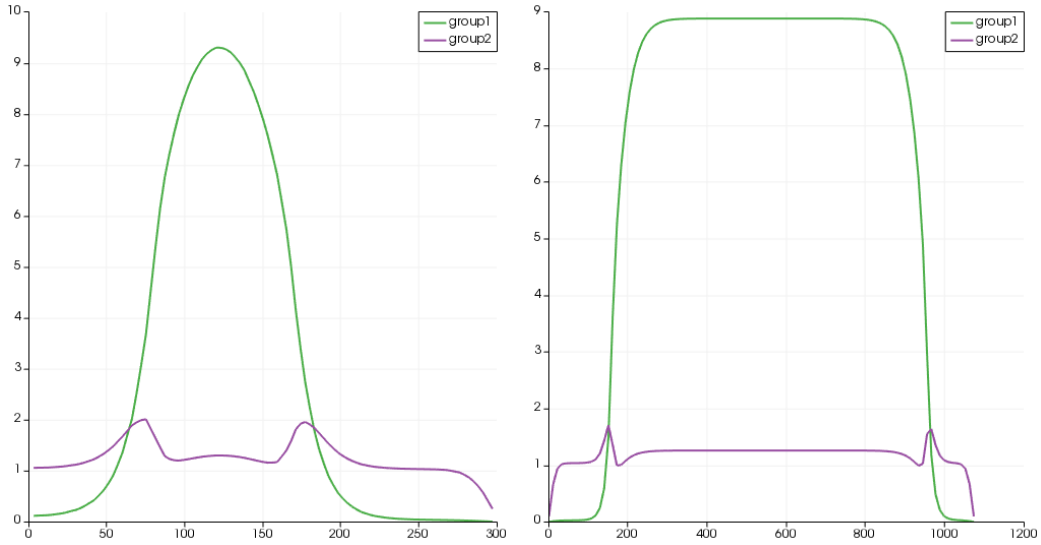
- Mesh: *3D-fullcore-120-homo.msh*
- Transient problem.

Figure 7 displays the geometry. Figure 8 shows the results.



(a) XZ-plane. (b) XY-plane.

Figure 7: *3D-fullcore-120-homo* geometry.



(a) Radial flux between points (0,0,400) and (300,0,400).

(b) Axial flux between points (120,-60,0) and (120,-60,1073).

Figure 8: Group 1 and 2 axial fluxes in different locations at 1 msec.