



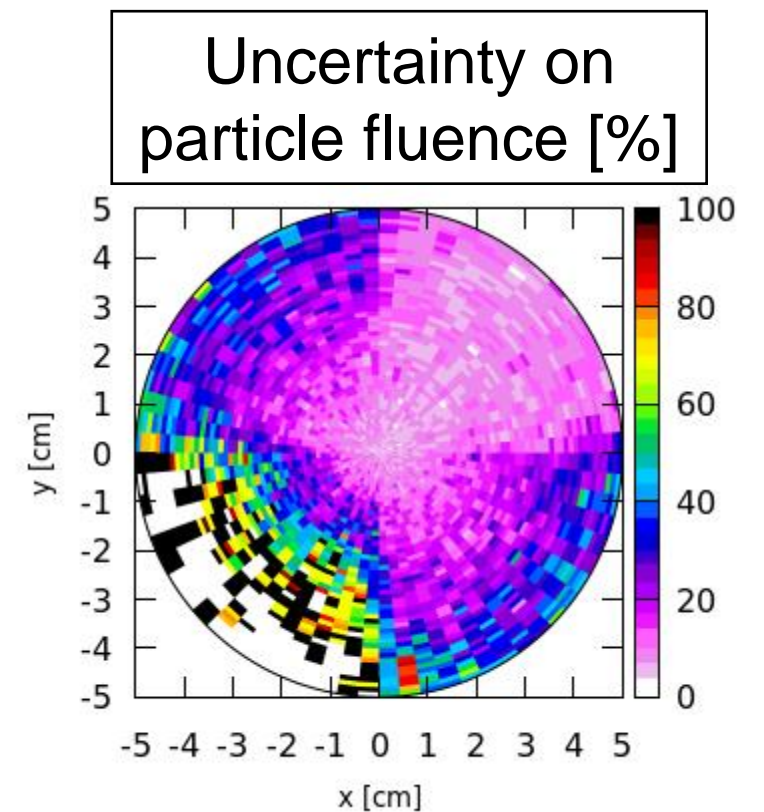
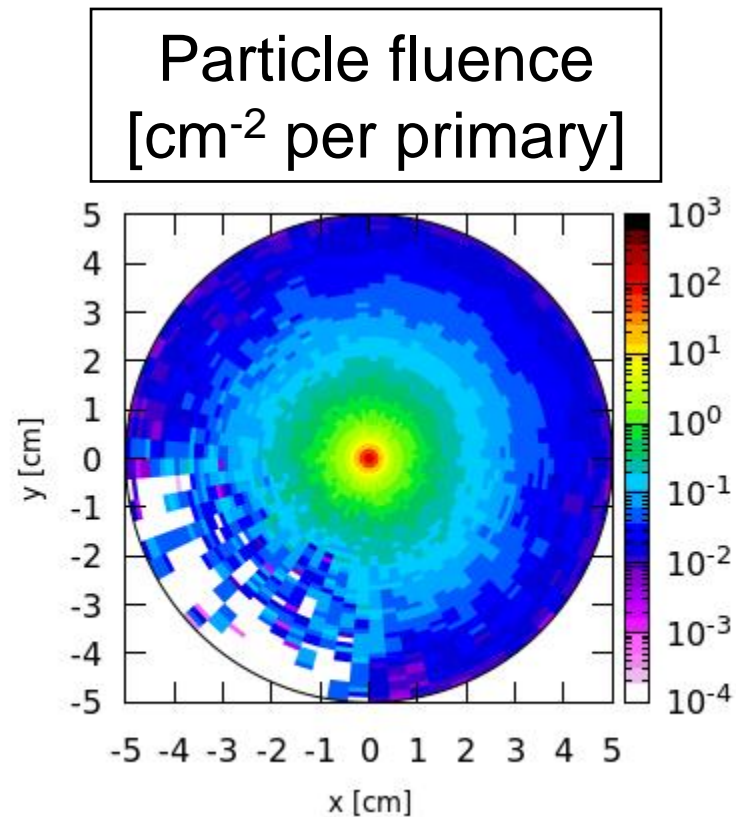
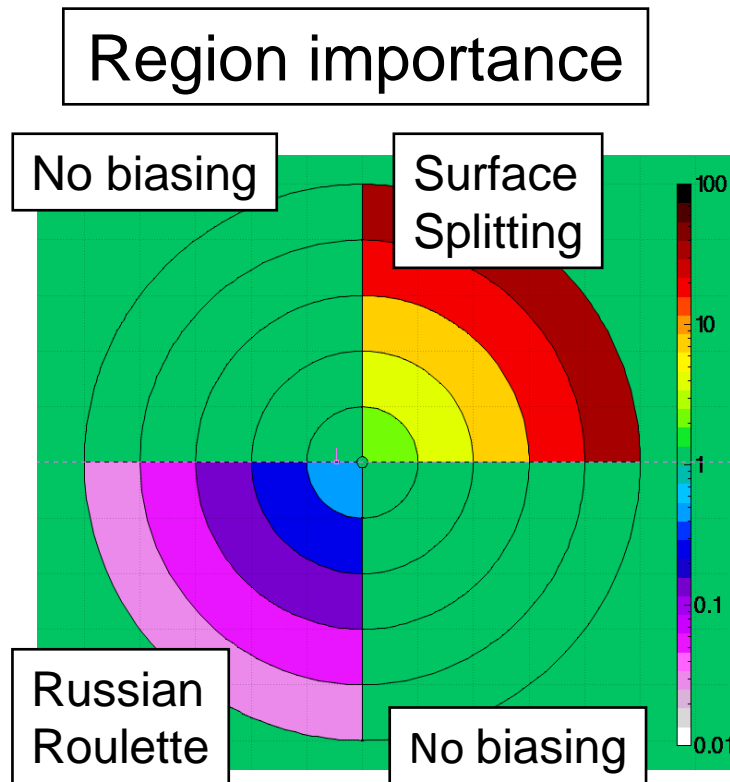
Biassing exercise

Region importance biasing

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Region importance biasing

- Try to replicate the plots shown in the lecture



Biasing exercise – Region importance biasing

Input preparation and running

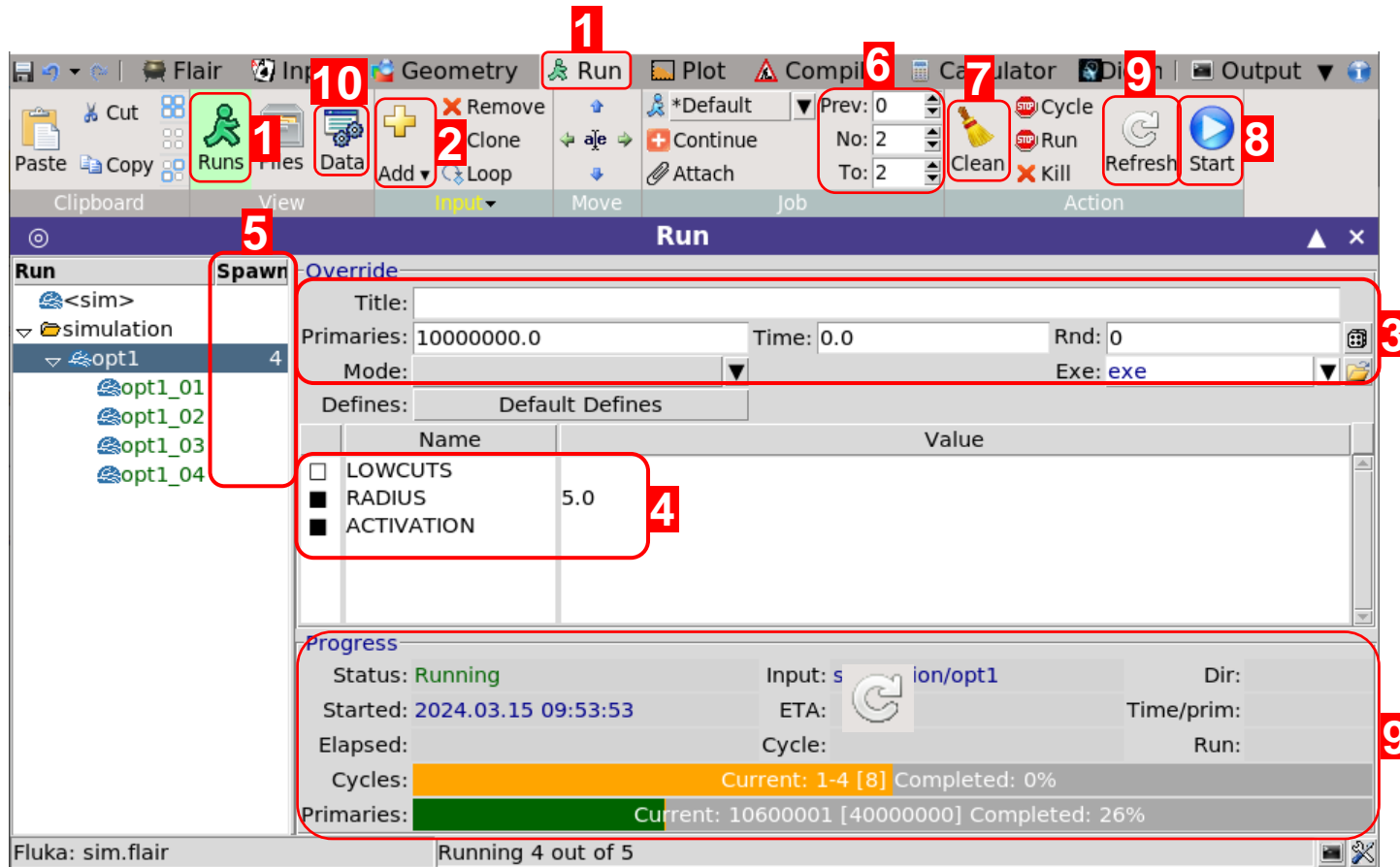
- Start from the input file provided
- No need to change the geometry
- Leave importance of the innermost cylinder as 1
- In one quarter, *increase* region importance in steps of 2^n (add **BIASING** cards)
- In one quarter, *decrease* region importance in steps of 2^n (add **BIASING** cards)
- Spawn in 2 jobs, run 5 cycles of 500 primaries each (total 5000 primaries)
- Do not forget to merge the results

Biassing exercise – Region importance biasing

Plotting results

- In flair Geometry tab
 - Create a new layer showing “*Importance*” in the color scale
 - Create a new layer to show “**allpart**” fluence and add a USRBIN
 - Select the proper *usrbin* file and the proper detector
 - Select a transversal and a longitudinal view to see the biasing effect
- In flair Plot tab
 - Create two new USRBIN plots
 - Select for both plots the proper *usrbin* file and detector
 - Select for both plots a transversal view with: $1.6 \text{ cm} < z < 2.0 \text{ cm}$
 - Select for both plots “*aspect ratio*” equal to 1
 - On the first plot show the “**allpart**” fluence
 - On the second plot show the uncertainty on the “**allpart**” fluence

Flair Cheat Sheet



Remember!

- You can **STOP** or **KILL** the run.
- You can edit your input while the simulation runs.

!!! WARNING !!!

- Mind the memory and CPU usage of your simulations!



- Go to the **Run** tab, select **Runs** view.
- Add **new folder** + Add **new run**.
- Override the input run info:
 - Number of primaries
 - Title / Max. time per cycle / Seed / Exec.
- Override/Define variables.
- Recommended:** Increase number of spawns
- Set number of cycles per spawn
 - Recommend at least 5 cycles in total.
 - $\text{num_cycles_tot} = \text{num_cycles_per_spawn} * \text{num_spawns}$

- Clean** run files after change to input or run settings.
- Click **Start** to launch the simulations.
- Monitor the progress. Click **Refresh** to force update.
- After all cycles end:
 - Go to the **Data** (Data icon) tab.
 - Click **Process** (Process icon) to combine all cycles and create simulation data files.
 - You may need to refresh (Refresh icon) and scan (Scan icon) if detectors are missing.



