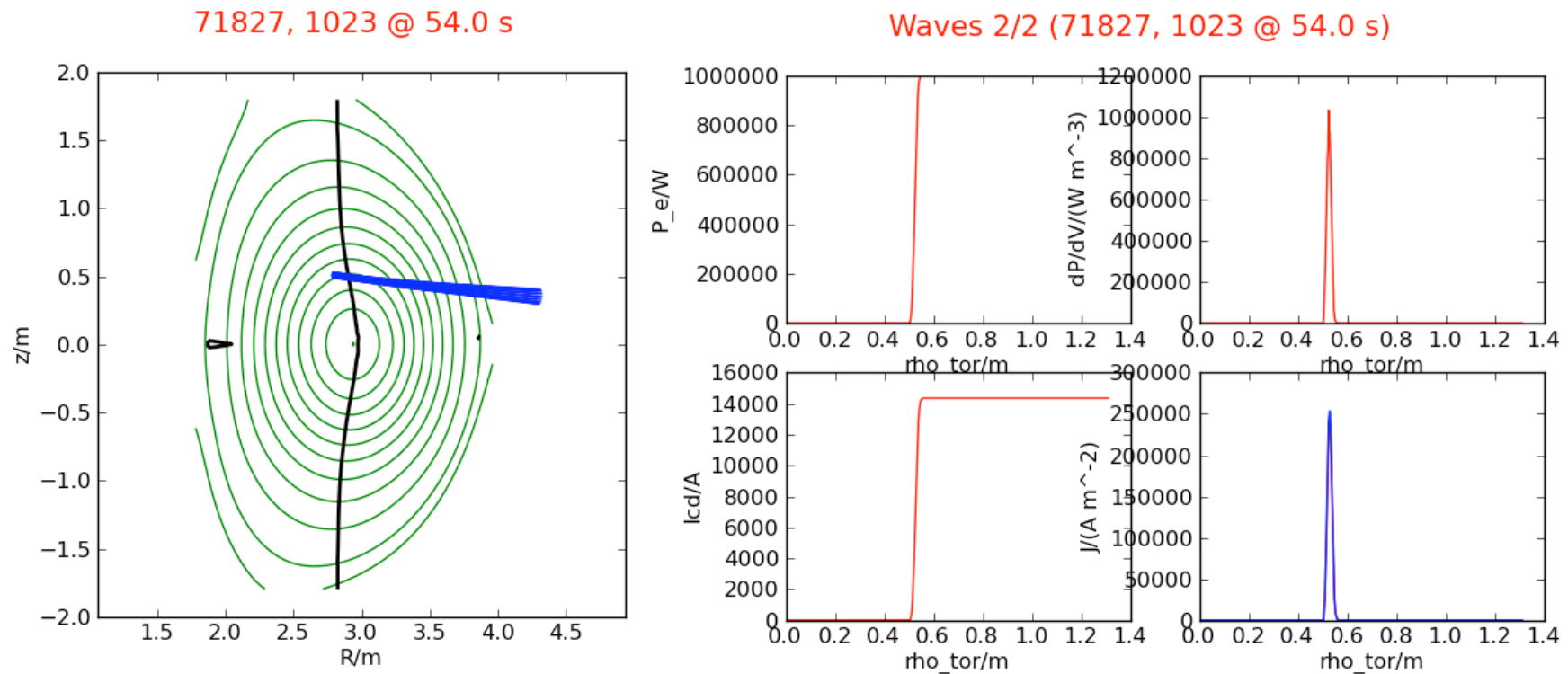


# GRAY code status

- GRAY updated to version 4.09a
  - antennas CPO: now exploits the “array of structures” structure
  - waves CPO: few fields renamed/added
  - “satellite” tools updated too (writeECant, waves2sources)
- Actors rebuilt and tested with shot 5, run 67 (test)
  - shot 5, run 1067 made available in the “public” IMP5 database  
[~www.wimp5/public/itmdb/itm\\_trees/test/4.09a/mdsplus/0/euitm\\_51067.\\*](http://www.wimp5/public/itmdb/itm_trees/test/4.09a/mdsplus/0/euitm_51067.*)
  - containing:
    - **equilibrium** and **coreprof** CPOs copied from shot 5, run 67 (equilibrium on R, z grid, 101 time slices from t=0 to t=10s)
    - **antennas** CPO (static EC antenna, generated with writeECant)
    - waves and coresource CPOs (GRAY, single ray raytracing)

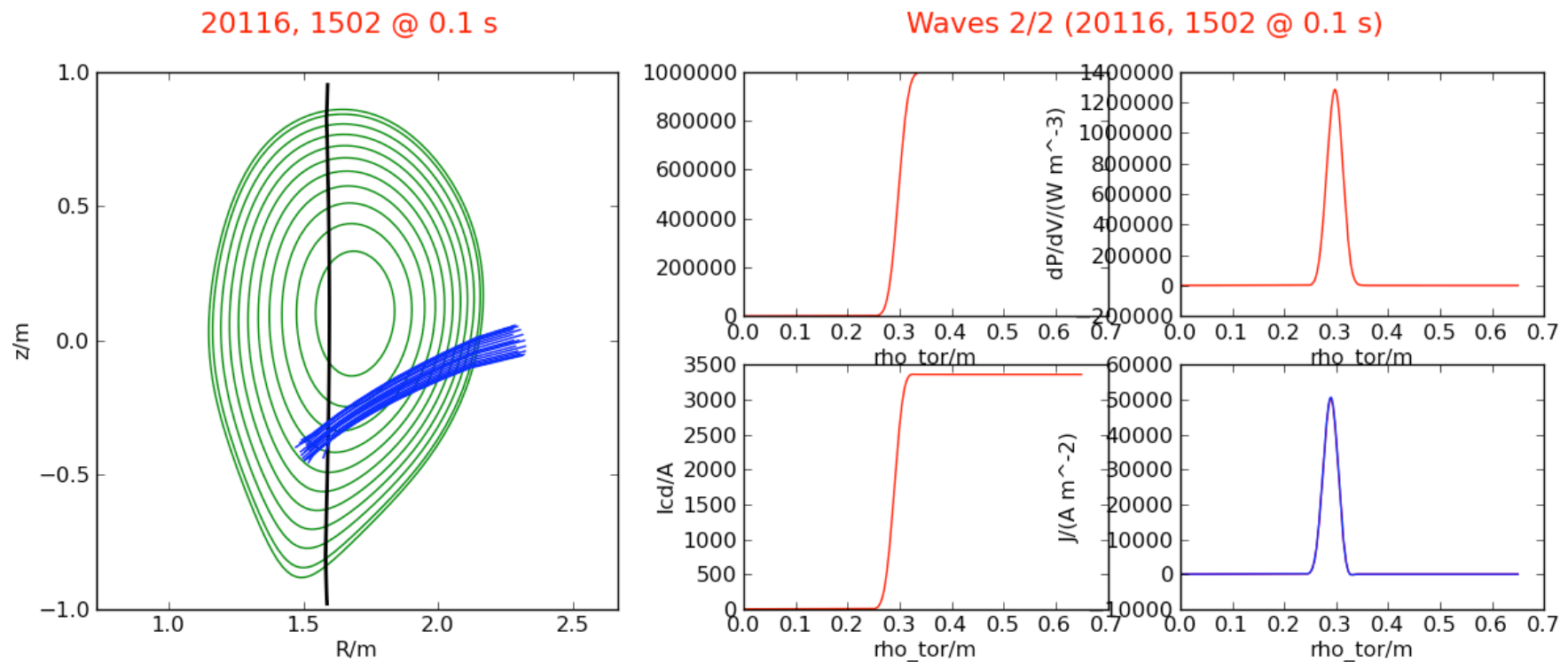
# New test cases

- JET, shot 71827, run 23
  - successful, shape not real (and no real ECRH system)
  - probably some irregular data on the equatorial plane



# New test cases

- AUG, shot 20116, run 502



# Ccomments on equilibrium

- Equilibrium CPO 2d grid
  - `profiles_2d%grid_type` must be filled.  
(`equilibrium_augmenter` now OK)
  - if `profiles_2d%position%r, %z` are filled, they must contain R and z values, otherwise they must be unallocated  
(I think this is what prevented the IMP5HCD composite actor to give good results when integrated in the ETS, vers. 4.08b)
- Side comment after discussion on equilibrium CPOs:
  - Flux surfaces are still reconstructed internally in GRAY → less robust code (`contouring` not always successful)