



Updates

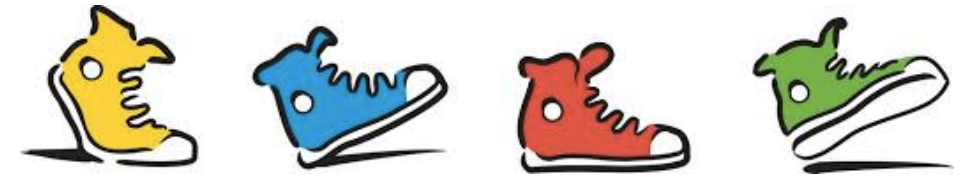
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SHOE



- Documentation

<http://arpg-serv.ing2.uniroma1.it/twiki/bin/view/Main/FOOTReconstruction>

- Currently 3 branch projects:

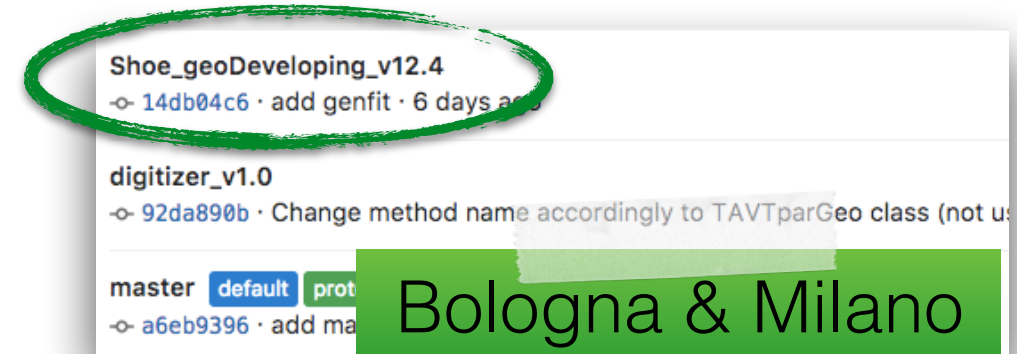
Shoe_geoDeveloping_v12.4	5 5
↳ 14db04c6 · add genfit · 6 days ago	
digitizer_v1.0	6 30
↳ 92da890b · Change method name accordingly to TAVTparGeo class (not used for the moment) · 5 days ago	
master default protected	
↳ a6eb9396 · add magnetic field testing function · 6 days ago	

Main and official version with the most stable and tested code.

Started a standalone work on Calorimeter by Ernesto.
Should be included soon!

SHOE - Geo Develop

- **Goal:** produce the FOOT geometry&material in a single place.
- **How:** describe them into SHOE that can generate the FLUKA input files. (independent runs)
- **Status** (working on ver14):
 - Geometry defined in SHOE (ROOT convention);
 - Reading materials from parameter file;
 - Write out bodies and regions (FLUKA convention) for Tracking detectors only;
 - Match between regions and materials (for Tracking detectors only);



Next:

- Build bodies and regions for other detectors;
- Complete Region-Material matching;
- Check geometry with FLUKA;

SHOE - Cleanup

Now, after the CDR rush, it's time to clean-up!

- Collecting **suggestions** and **complains** from users (me included) and filtrating:
 - Code full “FIRST’s zombies” that make the reading difficult;
 - Separate .c, .h, compilation objects.
 - *Few code comments and unfriendly naming*: partially true (very subjective), but impossible to re-write and comment everything.
MANDATORY to do that for new and revised parts.
 - *The code is complicated and I don't want to run everything*: create easy and configurable running class (~RecoTools)
- Anyway I **STRONGLY** suggest to develop inside the code, no standalone codes!
Your work should not be lost, but integrated in SHOE.
- Roberto's analysis code will be soon integrated as “level1”!

Tracking - checking++

Now, after the CDR rush, it's time for deep checks!

- No big, evident errors, but....
- Road-Map:
 - code reordering: **ongoing**;
 - check material definition: in parallel with GeoDeveloping: **ongoing** (see slide before);
 - Test Kalman at each reconstruction step:
 - prediction;
 - extrapolation;
 - uncertainties;
 - Are the experimental uncertainties well guessed? Kalman is ok with them? Start checks using χ^2 ...: **ongoing, just started**;
 - Test more Kalman algorithms: **to do**;

Conclusion



- GeoDeveloping ongoing quite fast;
- Ongoing Tracking deep checks;
- SHOE:
 - Mandatory to comment and and coding “clearly”;
 - Strongly suggest to include everything you do inside the framework. Use GIT.
 - Should we organise a new SHOE workshop? Yes, when?
- Web Site: detector upgrade & people! soon...

