

EsbRootView



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Animations

Animation with the optical photons



- Huge progress here. **Very striking visual (and intuitive) effect.**
- Much better than the “cone deployment” done in last releases. (That was done on a single “mean value” cone only).
- In particular the optical photons coming from (very scattered) electrons are quite funny.

Animation optical photons (2)

- Done by doing the transport of the optical photons from their initial position-direction emerging from charged particles (in particular a primary muon or electron, or secondary electrons).
- Transport done in straight line at 22.5 cm/nsec and stopped when reaching the WC cylinder.
- Then transport **NOT** not done by Geant4.
- Ten of thousands particles per time slice. Devices (my desktops but also my iPadPro) handle that easily.

Animation optical photons (3)

- Some animations are deposited on a shared Google drive directory (see URL in email)
- <https://drive.google.com/open?id=13iBb9wu0fuza7zEyoqwt5wuMIKi5FPsK>
- I deposited a couple of them on my YouTube channel.

Animation optical photons (4)



- Tord asked for animations showing some continuation between the optical photons arriving on the cylinder and the appearance of the WC detector response points...



WebAssembly

WebAssembly



- After a second quantum of action, another **huge** progress here.
- I have been able to bypass the poor emscripten GL lib and then do straight WebGL.
- I can display now with **all** common web browsers (Safari, Firefox, Chrome) on **all** my devices including iOS and Android !

WebAssembly (2)

- **But** I have a clear gap in performance right now compared to the app running natively.
- In particular it is too slow for the animations.
- An extra quantum of action is needed to (attempt to) optimise things.
- Still some (second order) problems with lightening.
- Some problems too with touch screen devices; touch events not well handled by web browsers.



Else

Various improvements



- I had too much specific near/far code. Arrange to be generic at numerous places.
- Have general insh commands to handle histogramming : create, fill, plot, plot_offscreen (paper output), write at the .csv and .root formats.

- Delayed because of the loss on my machine at Madrid.
- Got a new MacBookPro at middle of may only.
- I foresee a *EsbRootView/3.0* for July.
- Then with a WebAssembly version !
- (For that, I would probably need (near, fard) event files with two/three events but less than 20 Mbytes each).

Conclusions



- I am very happy with technical progresses around animations and by having (at last) a good solution in view to handle the web by keeping the same (scene graph) logic used for doing native apps.