

## Status of HTGEN - Halo and Tail Generation

by H. Burkhardt and L. Neukermans

<http://hbu.home.cern.ch/hbu/HTGEN.html>

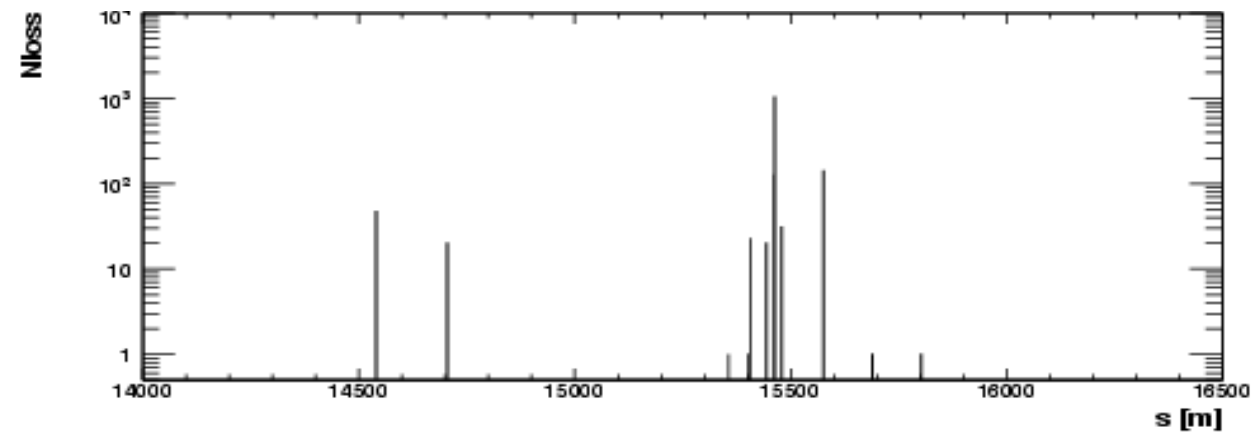
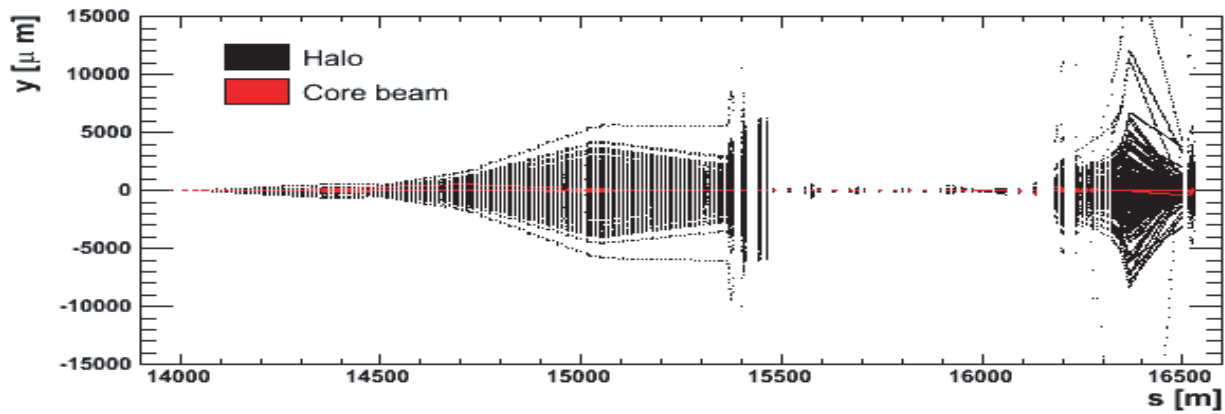
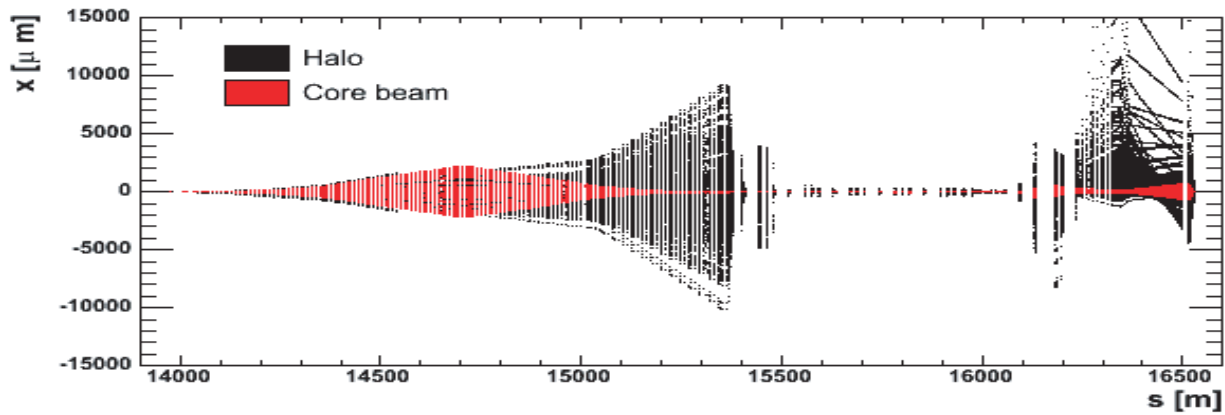
### **Fast Background Tracking:**

- > BeamGas production, tracking and loss implemented in Placet and Merlin**
- > SR photons tracking and loss in Placet**
- > Multiple scattering implemented in Placet**
  
- Alignment and multipole field errors effect in linac started**
- First look at IBS tails in Damping ring**

### **New fast Synchrotron Radiation spectrum generator :**

**testing of implementation into Geant4 with documentation  
+ dedicated test example in progress.**

# Example of tracking. CLIC BDS. Gaussian Beam with Halo from Beam Gas. 10 nTorr CO / N<sub>2</sub>.



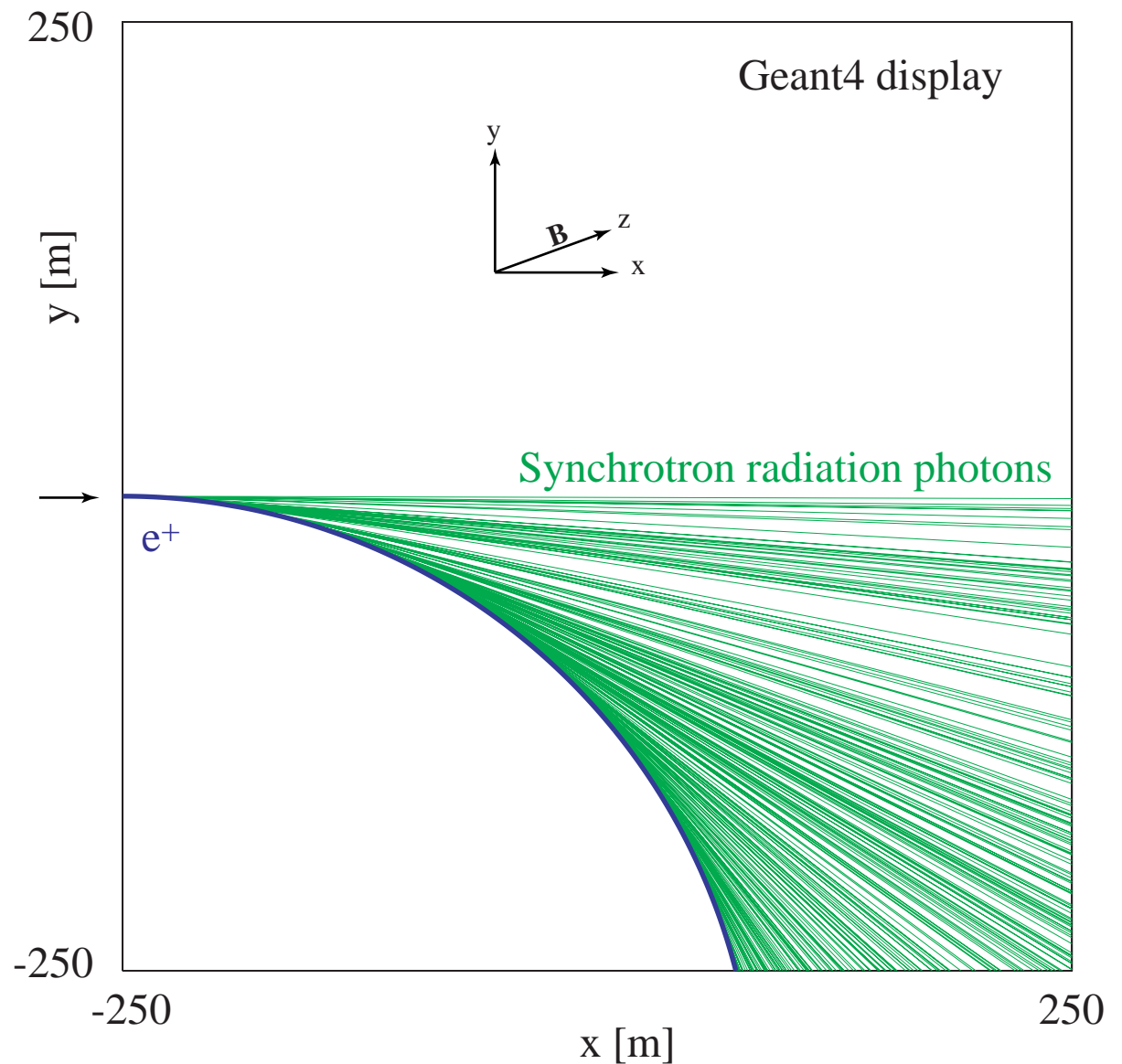
# Geant4

test implementation in current  
(geant4-08-00-ref-03) developer version  
with new  
G4SynchrotronRadiation.cc / hh

## Documentation

and  
dedicated electromagnetic  
test example  
TestEm15  
in preparation / test phase.

Scheduled to become part of  
standard Geant4 distribution  
this year.



10 GeV e<sup>+</sup> moving initially in x-direction,  
bend downwards on a circular path by a  
0.1 T magnetic field in z-direction.