Title

Date

Author

for the CESRTA Collaboration

Shielded Pickup Measurements in June, 2011

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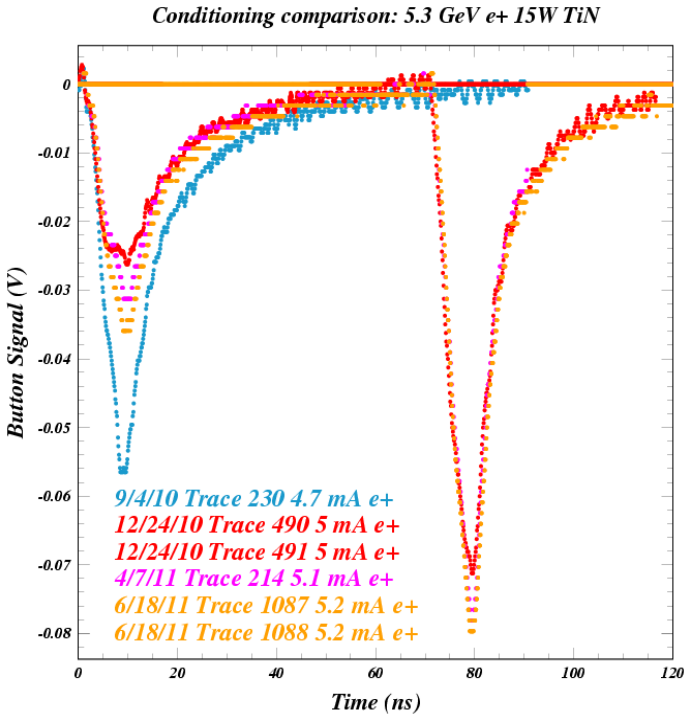
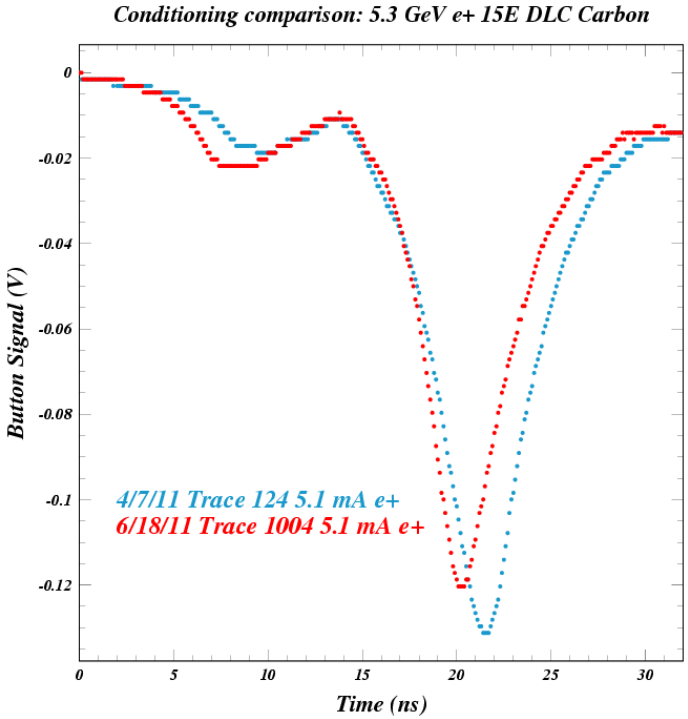
The TiN-coated vacuum chamber at 15W was installed in September, 2010.

The diamond-like carbon-coated chamber at 15E was installed in January, 2011.

Therefore, our standard data sets (solenoid, witness bunch, and bunch current scans) at 2.1 and 5.3 GeV in June provided primarily information on conditioning (first such info for DLC).

We also took the first standard data sets at 4.0 GeV, as well as bias voltage scan data.



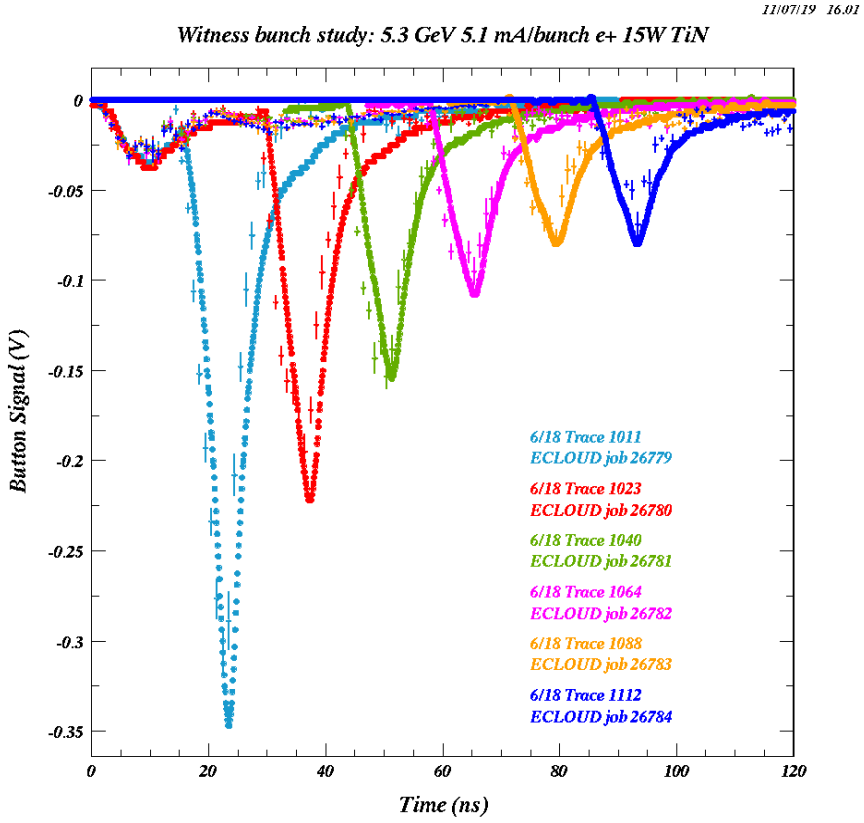


Ryan's Study of How the Witness Bunch Measurements Can Constrain Parameters of the Secondary Electron Production Kinematics

Original ECLOUD Model vs. New Optimized Model

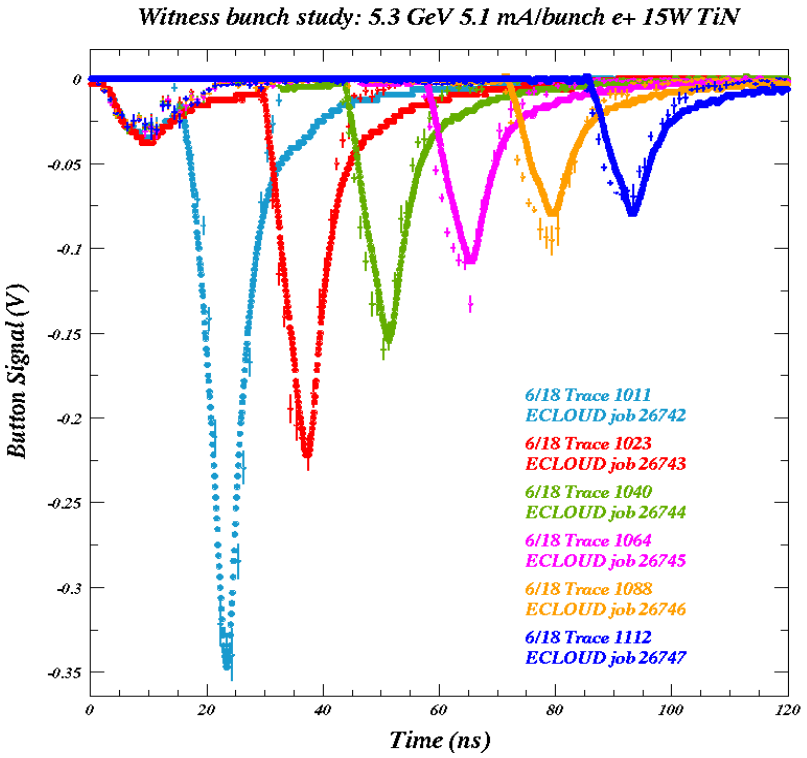
$f(E_{sec}) \sim \exp(-\ln(E_{sec}/SEMAX)^2/2)$

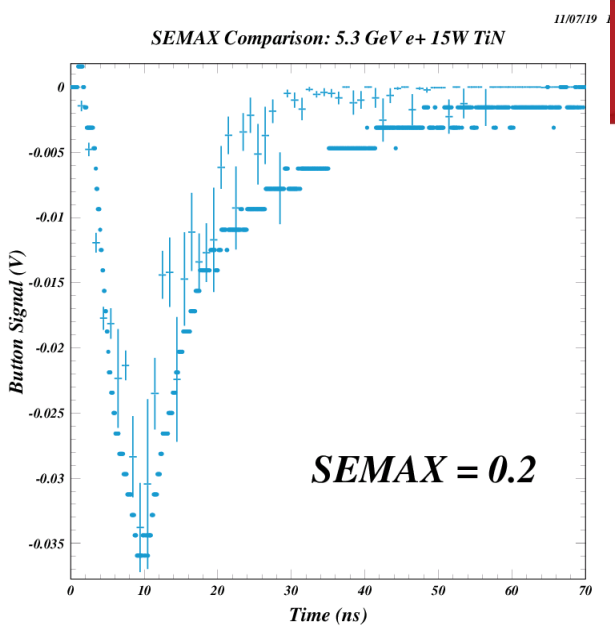
SEMAX=1.8 eV

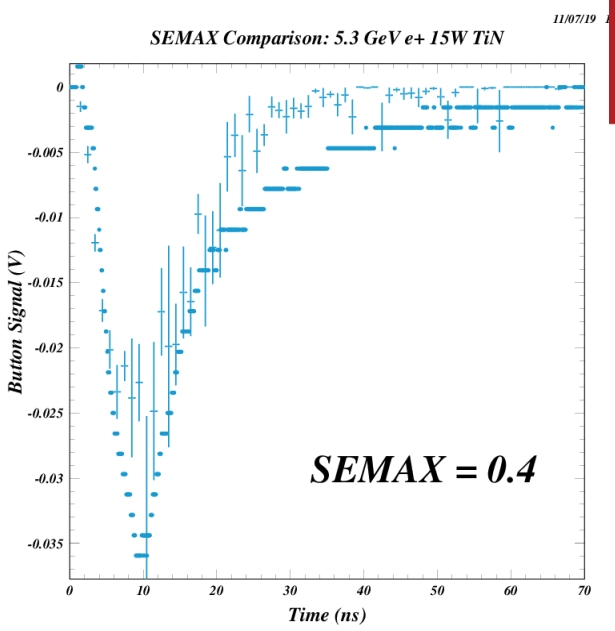


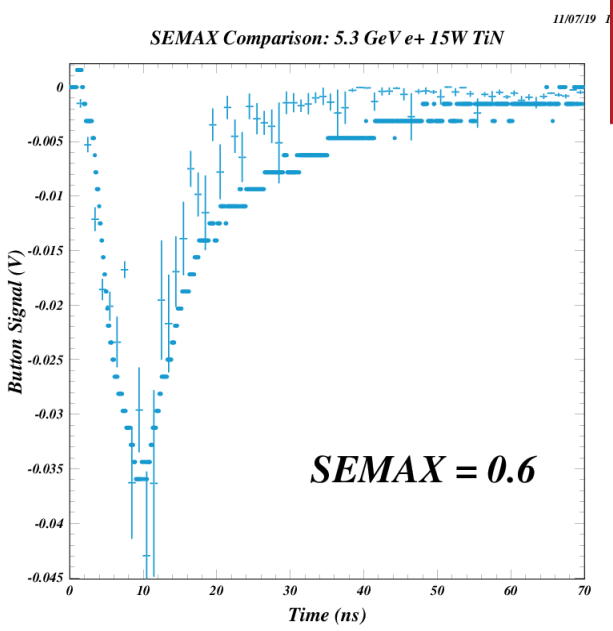
$f(E_{sec}) \sim E_{sec} \exp (-E_{sec}/SEMAX)$

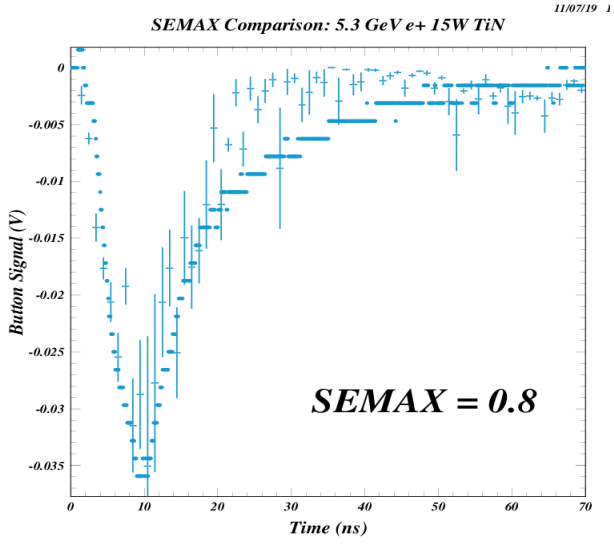
SEMAX=0.8 eV

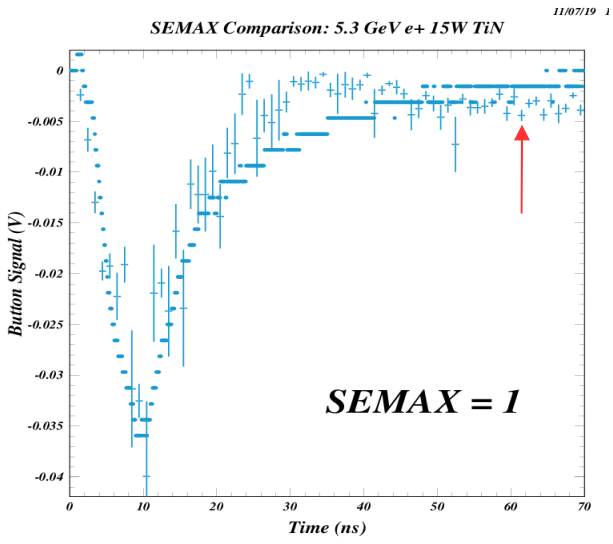


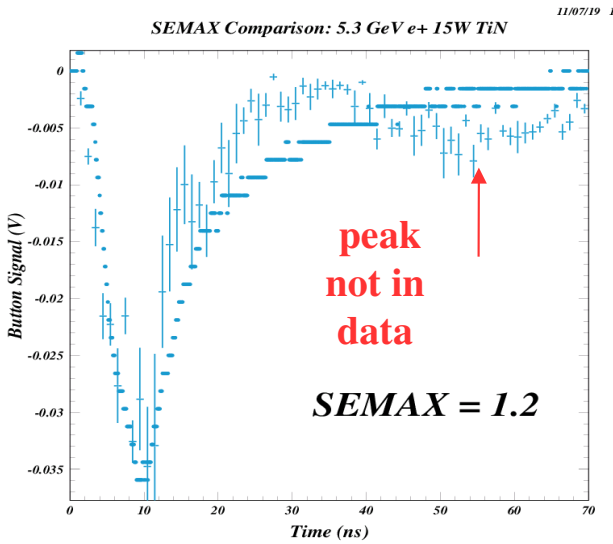






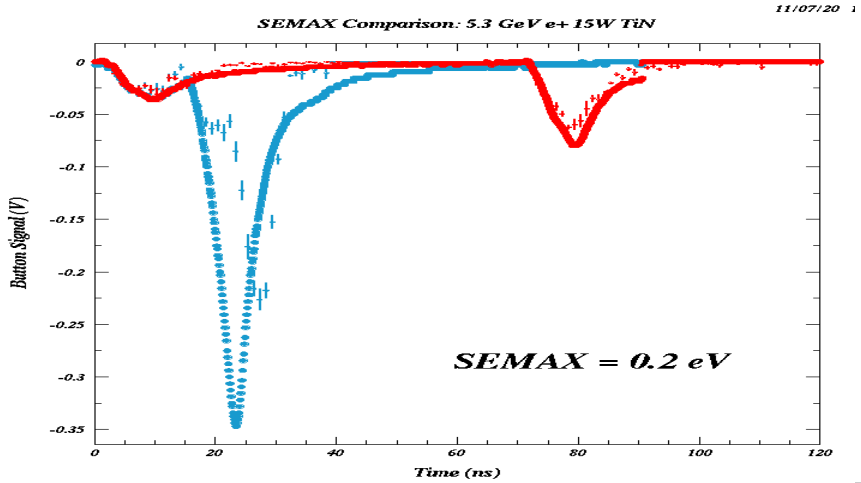


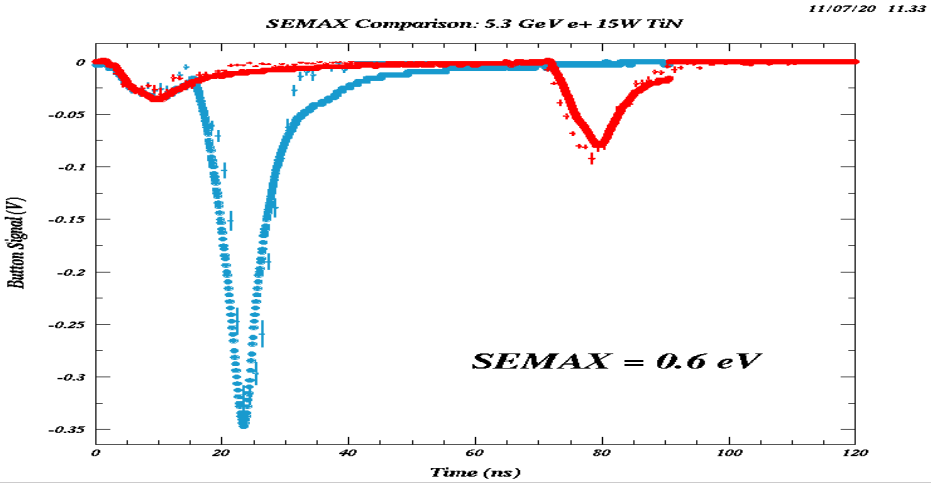


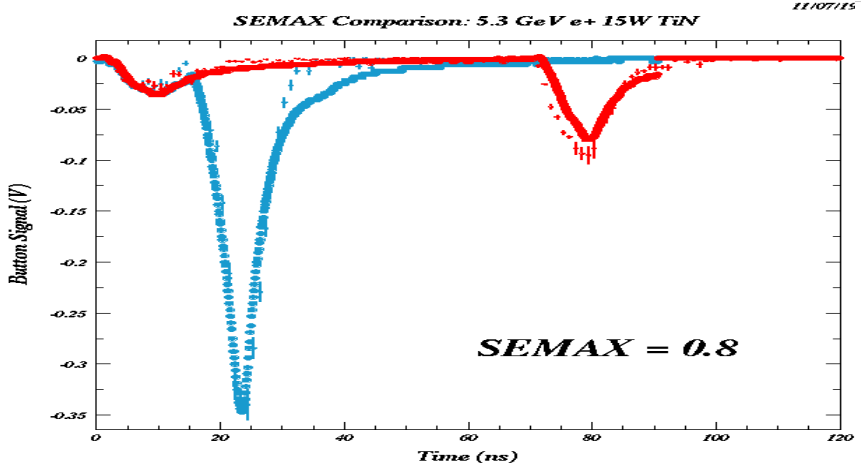


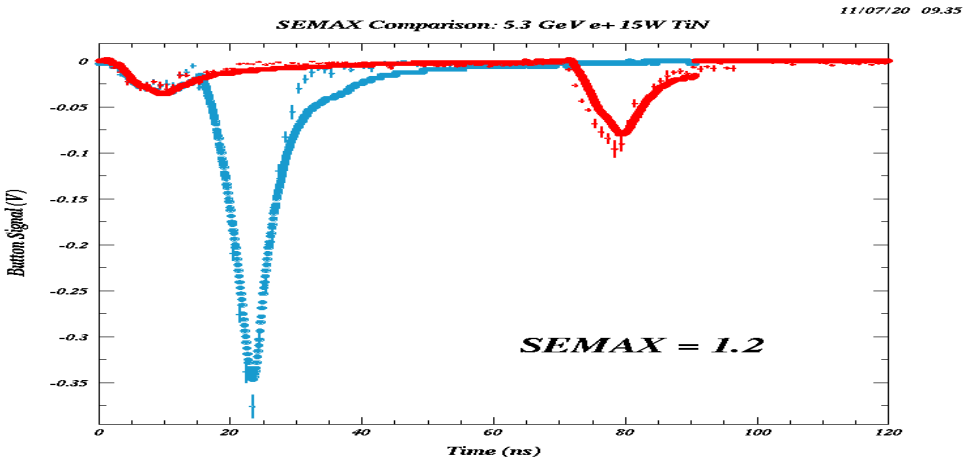
Sensitivity to SEMAX Parameter using exponential function
(Note the late simulation peak at SEMAX>0.8 eV that is not present in the data)

Lower bound on SEMAX obtained from 14-ns witness bunch signal shape

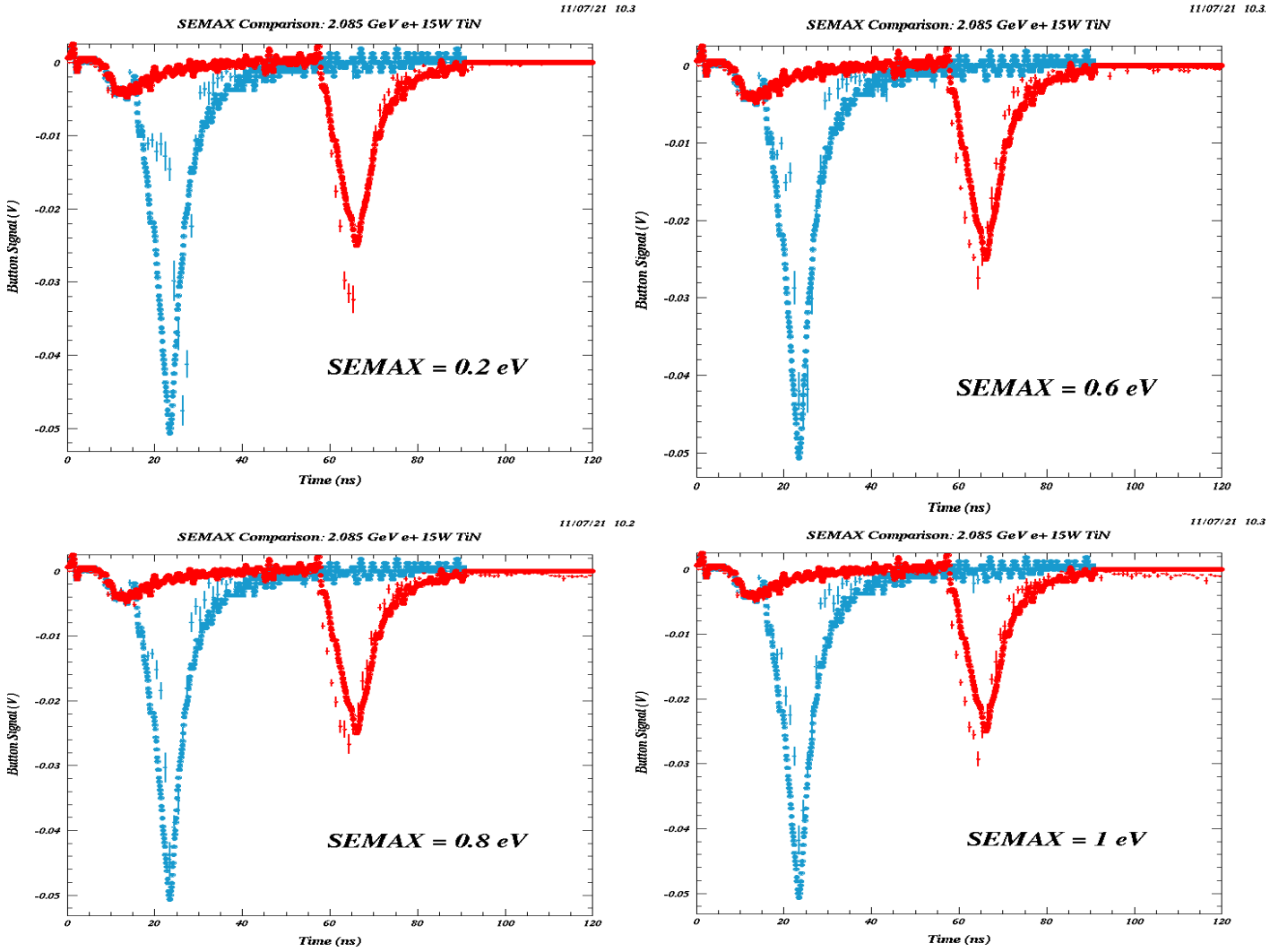








New for this meeting:
The witness bunch measurements at 2.1 GeV provide constraints very similar to those obtained with the 5.3 GeV data.



The 2.1 GeV measurements also provide an upper bound on the SEMAX parameter similar to the one found with the 5.3 GeV data.