Progress Update

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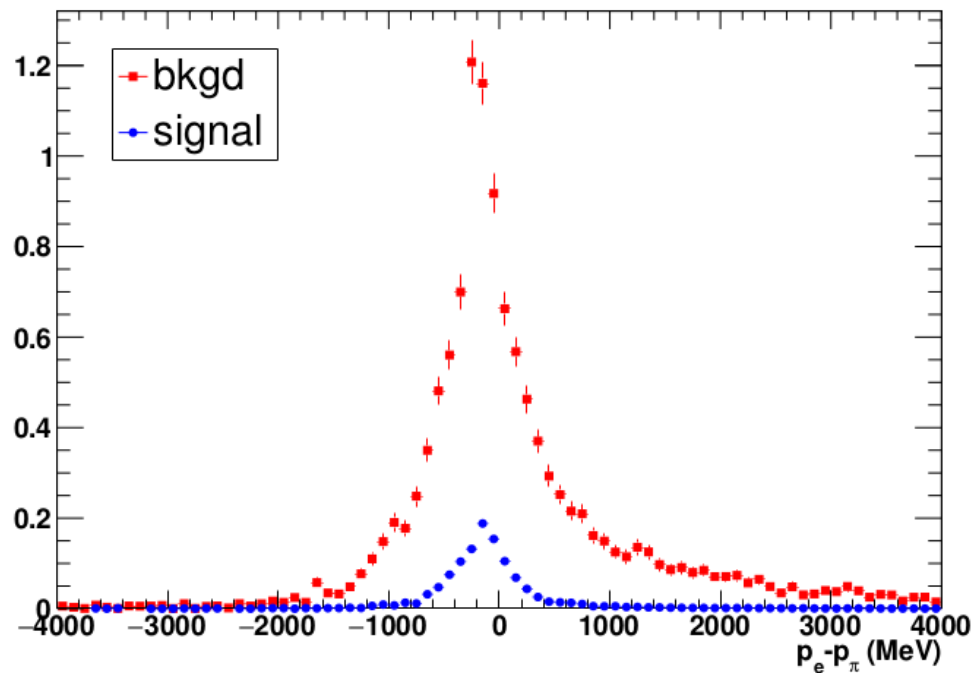# Current Status of Aluminum Sourcing

- Ordering from Foshan Kaiya Aluminum Co., Ltd.
    - CI for extrusion mould cost (2132 USD) needs to be signed and stamped
        - Payment can be done by wire transfer (requires some paperwork)
        - Alternative is a cheque, which requires 35-day wait period before it is sent
    - Once extrusion mould is done, they will send PI for sample
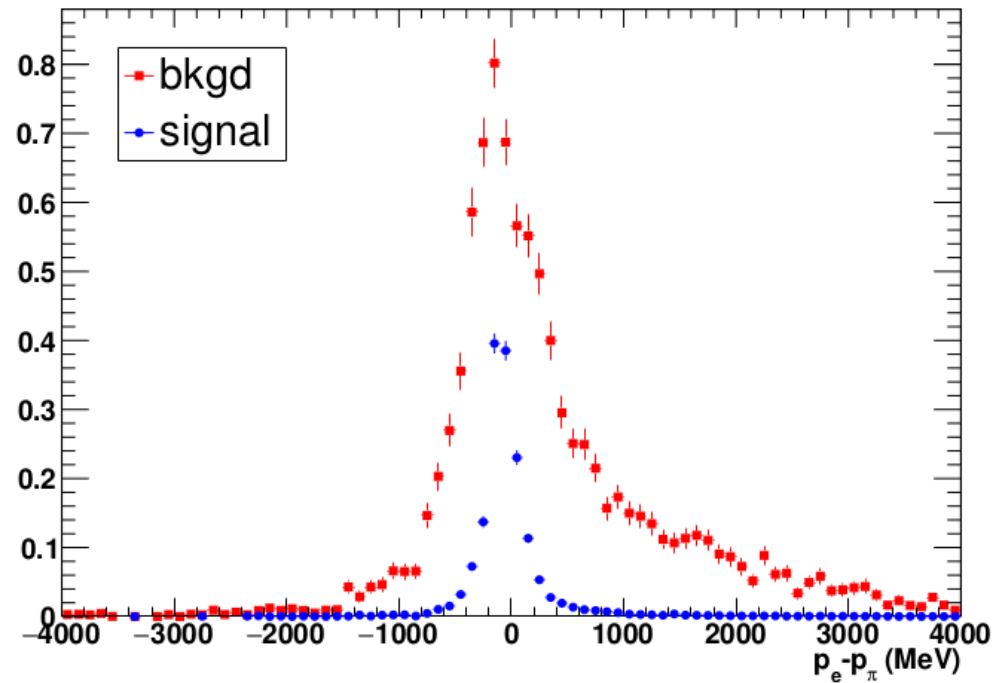
ν_e CC1π^+ Status

- Received some good feedback from T2K-SK meeting last week

- Roger:
  - S/sqrt(S+B) might be fine as a starting point for working with Wall and ToWall
  - T2K MC only goes a little into the OD – separate MC files are available, but not sure where they are, and they haven't been updated in a while
  - Plot more distributions vs p_e
    - Mike: maybe vs $(p_e-p_\pi)/(p_e+p_\pi)$

- Mike:
  - Would be good to break down background in cutflow tables into more components
    - Separate out CC1π^+ for both ν_e and ν_μ
    - Divide up NC by pion content
  - Requiring e-like ring to have higher energy may improve purity (see next slide)

FHC, NH, $\delta_{CP}=0$

Installing Things on Cedar

- Things to install (gcc 4.8.5):
  - NuPRISM software
    - CLHEP 2.1.0.1
    - ROOT 5.34/23
    - Geant4 9.4.4
    - WCSim (NuPRISM branch)
    - NuPRISM analysis code
  - Geant4 10
  - WCSim (up-to-date, with Geant4 10)
  - ROOT 6?
  - CERNLIB 2005
  - SKOFL + constants
  - ATMPD + constants

- Currently available on Cedar:
  - Geant4 10.02.p03
    - intel/2016.4
    - gcc/5.4.0
  - ROOT 6.08.02
    - gcc/5.4.0

Status of NuPRISM Analysis Installation

- CLHEP installed successfully

- Geant4 build error:

```
CMake Error at cmake_install.cmake:44 (file):
  file INSTALL cannot copy file
  "/project/6003227/group_writable/T2K/geant4-9.4.4/config/scripts/binmake.gmk"
  to
  "/project/6003227/group_writable/T2K/geant4-9.4.4/install/share/geant4-9.4.4/config/scripts/binmake.gmk".
```

  - Not sure why – I was able to copy the file manually

- ROOT configure error:
```
Checking for X11/xpm.h ... no
configure: xpm headers MUST be installed
```

  - root/configure looks in /usr/include, but on Cedar it should be looking in $NIXUSER_PROFILE/include
    - changed each instance of /usr/ to $NIXUSER_PROFILE/ and it seems to have fixed issue

- ROOT build error:
```
core/utils/src/rootcint_tmp -cint -f graf3d/gl/src/G__GL.cxx -c ... (really long line)
#error "You need a ISO C conforming compiler to use the glibc headers"
```

  - seems to be issue with rootcint

  - looking online, people have had issues with running rootcint with the flag -I/usr/include

  - still trying to narrow down cause

Other Installation Notes

- Briefly tried to use ROOT 6 binary distribution

  - error trying to load libraries – probably compiled with /usr/include

- Briefly tried building ROOT 6 from source

  - got error when running cmake –build

    - haven't looked into it extensively yet

- For some reason, Cedar has been very slow for the past few days (taking > 1 day to compile ROOT/Geant)