Useful Tools

Thanks to Shujie and Zhihong

TRI_Tools.h

- Located in scripts dir. of our repo.
  - Also need TRI_Main.h
- Plenty of useful functions
  - gGet_RunNoChain
    - Send a string a coma separated values
    - Returns, a vector of those values.
    - Great for this 1220,1221,1222,1223,1502,1503….
  - GgetTree
    - Send a vector of run numbers
    - Returns a Tchain of the T Trees from those files
      - Also, can define the name of tree to chain…….
    - Works great in conjunction with gGet_RunNoChain

Rootalias.h

- LoadRun
  - Many versions of this, send run number, Tree name, and path.
    - Works great if you have a few locations of root files
    - Just send run number and it will search through locations define in the PATHS variable
  - Returns a TChain of that run number
    - You can add to that chain using TChain::Add(LoadRun….)
- GetTarget
  - Use the run number to return the target
  - It will let you know if the target was moved during the run.

```
File   Edit   View   Search   Terminal   Help

[jbane@utkjlab ~]$ analyzer
   **********************************************
   *                                            *
   *          W E L C O M E   to   the          *
   *        H A L L A   C++  A N A L Y Z E R     *
   *                                            *
   *   Release       1.7.0-devel      May 01 2018 *
   *   Based on ROOT  6.08/00          Nov 4 2016 *
   *                                            *
   *          For information visit             *
   *        http://hallaweb.jlab.org/podd/       *
   *                                            *
   **********************************************

analyzer [0] .L TRI_Main.h
analyzer [1] .L TRI_Tools.h
analyzer [2] vector<Int_t> RunNumsVec = gGet_RunNoChain("1222,1223,1224,1225")
     RunNoChain is 1222 1223 1224 1225
(std::vector<Int_t> &) { 1222, 1223, 1224, 1225 }
analyzer [3] RunNumsVec[1]
(__gnu_cxx::__alloc_traits<std::allocator<int> >::value_type) 1223
                    analyzer [5] gGet
                    gGetTree
                    gGet_InputFile_Var
                    gGet_RunNoChain
                    gGet_TargetInfo
                    analyzer [5] gGetTree(RunNumsVec)
                          T->Add(/v/lustre2/expphy/volatile/halla/triton/Marathon_Rootfiles/pass1//tritium_1222.root)
                              Add /v/lustre2/expphy/volatile/halla/triton/Marathon_Rootfiles/pass1//tritium_1222_1.root
                              Add /v/lustre2/expphy/volatile/halla/triton/Marathon_Rootfiles/pass1//tritium_1222_2.root
                              Add /v/lustre2/expphy/volatile/halla/triton/Marathon_Rootfiles/pass1//tritium_1222_3.root
                          T->Add(/v/lustre2/expphy/volatile/halla/triton/Marathon_Rootfiles/pass1//tritium_1223.root)
                              Add /v/lustre2/expphy/volatile/halla/triton/Marathon_Rootfiles/pass1//tritium_1223_1.root
                              Add /v/lustre2/expphy/volatile/halla/triton/Marathon_Rootfiles/pass1//tritium_1223_2.root
                              Add /v/lustre2/expphy/volatile/halla/triton/Marathon_Rootfiles/pass1//tritium_1223_3.root
                          T->Add(/v/lustre2/expphy/volatile/halla/triton/Marathon_Rootfiles/pass1//tritium_1224.root)
                              Add /v/lustre2/expphy/volatile/halla/triton/Marathon_Rootfiles/pass1//tritium_1224_1.root
                              Add /v/lustre2/expphy/volatile/halla/triton/Marathon_Rootfiles/pass1//tritium_1224_2.root
                              Add /v/lustre2/expphy/volatile/halla/triton/Marathon_Rootfiles/pass1//tritium_1224_3.root
                          T->Add(/v/lustre2/expphy/volatile/halla/triton/Marathon_Rootfiles/pass1//tritium_1225.root)
                              Add /v/lustre2/expphy/volatile/halla/triton/Marathon_Rootfiles/pass1//tritium_1225_1.root
                              Add /v/lustre2/expphy/volatile/halla/triton/Marathon_Rootfiles/pass1//tritium_1225_2.root
                              Add /v/lustre2/expphy/volatile/halla/triton/Marathon_Rootfiles/pass1//tritium_1225_3.root
                    (TChain *) 0x53912d0
                    analyzer [6]
```

Lets not reinvent the wheel!!!

- TRI_Tools.h & TRI_Main.h
    - https://github.com/JeffersonLab/tritiu
    - https://github.com/yezhihong/My-Tritium
    - https://github.com/yezhihong?tab=repositories

- Rootalias.h
    - /home/a-onl/tritium/replay/scripts/rootalias.h
        - Pushed to repo?????
    - Only works with root 6!!!

- To use: just add #include "file" to scripts or load in your interactive root session

PLEASE SHARE!!!

- If you have some great tools or algorithms that **might** be helpful to us please share and share early

- Using git would be great for this, maybe add small ReadMe for any un-intuitive functions or dependencies