NMR Data File & Analysis Macro

Target LabVIEW Team Meeting
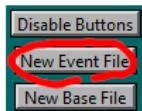
2024-Feb-12

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UVA

NMR Data File on NFS Disk

► "NMR3" = New computer in NMR rack for PDP — UVA elog 939
  ▷ Windows 10 Pro, instead of Home
  ▷ The E906/E1039 network disk ("data2") is auto-mounted as "z:"

► When you press the `New Event File` button on PDP, the NMR data files are saved on "data2" (as well as local folder)
  ▷ Under `/data2/e1039_data/target_data/NMR/`
  ▷ Both the event and signal files, such as
    `2024-02-10_18h41m29s.csv,`
    `2024-02-10_18h41m29s-RawSignal.csv` and
    `2024-02-10_18h41m29s-PolySignal.csv`

► Quick analysis of event file, mainly for TE
  ▷ `https://e906-gat1.fnal.gov/data-summary/e1039/`
    `target-NMR-event.php`
  ▷ Will import the TE calculator from the UVA page

ROOT Macro for NMR Data Analysis

► Available on GitHub:

https://github.com/E1039-Collaboration/e1039-analysis/tree/master/AnaNMRData

  ▷ Handling of data (csv) files is hidden in header files
  ▷ Main macros like `ana_NMR_event.cc` are simple and self-explanatory

► Usage
  ▷ "README.md"
  ▷ Better used on `e1039gat1.fnal.gov`

► Examples
  ▷ Distribution of TE signal — UVA elog #932
  ▷ Noise level versus time — UVA elog #943

► I would encourage all (young) members to analyze incoming NMR data