

Reading ASL 5000 files in new versions of Matlab on 64 bit computers

With ASL having gone out of business, they are no longer supporting reading their files on new computers.

Here is a reasonably pain-free-for-me way of getting a 64-bit Windows 10 computer with the most recent versions of Matlab (with the statistics and signal processing toolboxes) to read ASL .eyd files.

The steps are:

- 1) put the 2 attached ASLFileLib files in a directory called c:\Program Files (x86)\Applied Science Laboratories\DLL
- 2) run a command prompt AS ADMINISTRATOR (via right click run-as-administrator)
cd c:\Program Files (x86)\Applied Science Laboratories\DLL
regsvr32 ASLFileLib2_x64.dll
- 3) put all of the other files in your matlab path somewhere
- 4) use the attached readasl2008.m to read your .eyd file via
p=readasl2008(fnameroot)

This will return a structure in the variable “p” with your data, deblinked using the algorithms I've described in Siegle, G.J., Ichikawa, N., Steinhauer, S.R. (2008). Blink before and after you think: Blinks occur prior to and following cognitive load indexed by pupillary responses. *Psychophysiology*, 45, 679-687.

The structure contains the following fields:

p =

struct with fields:

```
    fname: '3350base.eyd'
    header: [1x1 struct]
    RescaleFactor: 60
    raw: [18222x1 struct]
    raw2: [1x1 struct]
    RescaleData: [1x18221 single]
    BlinkTimes: [1x18227 logical]
    XmCRX: [18221x1 single]
    YmCRY: [18221x1 single]
    X: [18221x1 single]
    Y: [18221x1 single]
    EventTicks: []
    EventCodes: []
    EventTimes: []
    BlinkTimesXY: [18221x1 logical]
    XmCRXn: [18221x1 single]
    YmCRYn: [18221x1 single]
    NoBlinks: [18221x1 single]
    NoBlinksUnsmoothed: [18221x1 single]
    XScreenCoords: [18221x1 single]
    YScreenCoords: [18221x1 single]
    Seconds: [1x18221 double]
    Minutes: [1x18221 double]
```

Raw pupil at 60Hz
Identified blinks
Pupil data with blinks linearly interpolated through (smoothed)
Pupil data with blinks linearly interpolated through (not smoothed)

Please feel free to let me know if this doesn't work for you, especially if we seem to be missing some files, and I can send anything else I'm covertly calling...

Greg