

```

Sleeping for 10 sec

===== Scalers =====
 1 :      472      530      584      900      636      551      443      5
 9 :         2         1         1         1         16         3         0         0
17 :         1         0         0         1         3         1         0         0
25 :         1         0         0         1         3         1         0         0
33 :      481      549      566      814      603      505      439      11
41 :         4         3         1         5         22         2         1         1
49 :         1         1         0         3         3         0         1         1
57 :         1         1         1         3         4         0         1         1
65 :      685      865     1038     6126     1118      785      641      63
73 :     1668      894     1065     6643     1190      800      656      63
81 :         0         0         0         0         0         0         0         0
89 :         5         5 5941041 962694 220568         0       722 2180040
97 :        709      851      987      5876     1110      750      658      91
105 :     1696      881     1024     6309     1199      775      668      91
113 :         0         0         0         0         0         0         0         0
121 :         7         9 5938225 958945 220423         0       703 2178967

===== Rates (Hz) =====
1:      10      12      14      20      14      11      9      0
9:         0         0         0         0         0         0         0         0
17:         0         0         0         0         0         0         0         0
25:         0         0         0         0         0         0         0         0
33:         9         12        12        18        11        11         9         0
41:         0         0         0         0         0         0         0         0
49:         0         0         0         0         0         0         0         0
57:         0         0         0         0         0         0         0         0
65:        15        21        25       133        23        15        14         0
73:       113        21        26       144        24        15        14         0
81:         0         0         0         0         0         0         0         0
89:         0         0 135019 21921 5012         0        17 49537
97:        14        18        22       129        20        16        14         2
105:       111        19        23       138        21        16        15         2
113:         0         0         0         0         0         0         0         0
121:         0         0 135020 21819 5010         0        15 49537
[apar@adaql5 ~/devices/pvdis/online]$ 

```

Figure 1: Waiting for 10 Sec to calculate rates in Hz. First scaler: the line of 1 and line of 9 belong to the 1st NIM-ECL module ch 1-16 (line of 33 and line of 41 for another helicity state). The line of 7 and line of 25 belong to the 2nd NIM-ECL module ch 1-16 (line of 49 and line 57 for another helicity state). The second scaler module: the line of 65 and line of 73 belong to the 3rd (line of 97 and line of 105 for another helicity state) NIM-ECL module ch1-16; the line of 81 and line of 89 belong to the 4th NIM-ECL (line of 113 and line of 121 for another helicity state) module ch1-16. Starting from the last channel and going backwards are: 100 kHz clock, T8 (S1 & S2) trigger, T9 (gas-cherenkov) trigger, 10 kHz pulser, floor scint signal, and BCM, respectively.

```

Sleeping for 300 sec

===== Scalers =====

 1 :      3346      4023      4226      5604      4049      3608      3106      65
 9 :         16         30         17         24         139         20         18         5
17 :          3          8          11          9          22          7          3          2
25 :          7          11          12          9          24          8          4          2
33 :      3312      3944      4150      5680      4241      3598      3015      77
41 :         23         25         21         36         146         31         14         10
49 :          5          2          13          14          36          5          5          2
57 :          8          5          13          15          38          7          6          3
65 :      4990      6277      7647      42462      7688      5312      4556      554
73 :     94745      6815      7900      45607      8250      5397      4618      554
81 :          0          0          0          0          0          0          0          0
89 :          53          65 41384402 6828381 1508433          2      4977 14909653
97 :      4940      6222      7456      42653      7946      5385      4485      579
105 :     94754      6775      7722      45937      8562      5472      4583      579
113 :          0          0          0          0          0          0          0          0
121 :          69          82 41384696 6829063 1508476          2      5059 14909838

===== Rates (Hz) =====
1:      11      13      13      18      13      11      10      0
9:         0         0         0         0         0         0         0         0
17:         0         0         0         0         0         0         0         0
25:         0         0         0         0         0         0         0         0
33:        10        13        13        18        14        11         9         0
41:         0         0         0         0         0         0         0         0
49:         0         0         0         0         0         0         0         0
57:         0         0         0         0         0         0         0         0
65:         16         20         25        140         25         17         15         1
73:        315         22         26        151         27         17         15         1
81:          0          0          0          0          0          0          0         0
89:          0          0 137268 22649 5003          0          16 49454
97:         16         20         24        141         26         17         14         1
105:        315         22         25        152         28         18         15         1
113:          0          0          0          0          0          0          0         0
121:          0          0 137298 22656 5004          0          16 49465
[apar@adaql5 ~/devices/pvdis/online]$ █

```

Figure 2: Waiting for 300 Sec to calculate rates in Hz. We see raw hits everywhere (except the line of 81 and its other helicity counterpart - line of 113), why don't we see a non-zero rate for channels that show 0 Hz? Also for waiting longer time for averaging did not help to see the low rate-values (which always appear to be zero). Both figures (fig 1 and 2) were taken when there was no beam trip at all.

```

Sleeping for 10 sec

===== Scalers =====
 1 :      154      142      190      221      173      188      143      5
 9 :         1         1         3         3         7         1         1         0
17 :         1         0         2         2         0         0         0         0
25 :         1         0         2         2         1         0         0         0
33 :       155      197      199      226      177      162      139         1
41 :         1         1         2         3         5         1         0         0
49 :         1         1         1         1         2         0         0         0
57 :         1         1         1         1         2         0         0         0
65 :       195      194      266     1502      285      234      188        21
73 :       197      208      274     1643      305      235      187        21
81 :         0         0         0         0         0         0         0         0
89 :         3         4      8811      790     65343         1         46     645778
97 :       200      246      288     1548      284      207      194         23
105 :      201      252      302     1658      304      207      197         23
113 :         0         0         0         0         0         0         0         0
121 :         2         2      8933      784     65561         0         54     647937

===== Rates (Hz) =====
1:   11   10   13   17   13   14   10   0
9:   0    0    0    0    0    0    0    0
17:  0    0    0    0    0    0    0    0
25:  0    0    0    0    0    0    0    0
33:  11   16   16   17   13   12   10    0
41:  0    0    0    0    0    0    0    0
49:  0    0    0    0    0    0    0    0
57:  0    0    0    0    0    0    0    0
65:  14   14   19  115   21   17   13    1
73:  15   15   19  127   23   17   13    1
81:  0    0    0    0    0    0    0    0
89:  0    0   821   76  4977    0    3  49186
97:  14   19   23  116   22   15   14    1
105:  14   20   24  124   23   15   15    1
113:  0    0    0    0    0    0    0    0
121:  0    0   833   74  5010    0    4  49520
[apar@adaql5 ~/devices/pvdis/online]$ 

```

Figure 3: Scaler reading when the target was empty and there was no beam. Its showing a cosmic rate. In the previous two figures, the target was polarized He3, and the beam was 13.5 μ A.