October 23, 2019 – NEAR FIELD MAGNETIC INJECTIONS around DET

Inside DET

1255850852 23 Oct 2019 07:27:14 UTC (23 Oct 2019 09:27:14 CEST)

Check of injected line (we are wainting for LN3)

1255852819 23 Oct 2019 08:00:01 UTC (23 Oct 2019 10:00:01 CEST)

Inject 368 Hz line -

1255853399 23 Oct 2019 08:09:41 UTC (23 Oct 2019 10:09:41 CEST)

Small coil on the south flange of DET tower (mia foto)- DAC sets for 6V at 368 Hz, small amplifier reads 0.3 A 21.8 V.

1255853749 23 Oct 2019 08:15:31 UTC (23 Oct 2019 10:15:31 CEST)

Switch off amplifier (no more injected line)

1255853848 23 Oct 2019 08:17:10 UTC (23 Oct 2019 10:17:10 CEST)

We are moving to DET terras

1255854387 23 Oct 2019 08:26:09 UTC (23 Oct 2019 10:26:09 CEST)

ENV\_DET\_MAG\_V magnetic probe connected at SDB1 south flange/side

1255854581 23 Oct 2019 08:29:23 UTC (23 Oct 2019 10:29:23 CEST)

Electronics suspended benchs – on the module of SDB1 coil drivers – DARM = 2e-9

1255854697 23 Oct 2019 08:31:19 UTC (23 Oct 2019 10:31:19 CEST)

Move the probe DAC box 16 - DARM =2e-8

1255854856 23 Oct 2019 08:33:58 UTC (23 Oct 2019 10:33:58 CEST)

On output mode cleaner control (and quadrants ) Crate 4 - DARM =2e-8s

1255855051 23 Oct 2019 08:37:13 UTC (23 Oct 2019 10:37:13 CEST)

Box “LVDT and quadrants” – DARM=2e-6

1255855242 23 Oct 2019 08:40:24 UTC (23 Oct 2019 10:40:24 CEST)

Muovo la coil

1255855411 23 Oct 2019 08:43:13 UTC (23 Oct 2019 10:43:13 CEST)-

(bobina messa nella feritoia dove entrano i cavi, sotto l’elettronica. Per capire se accoppia con i cavi o con l’elettronica adesso muovo allontanando dall’elettronica ma lasciandola sui cavi.

On cables behind rack, pink snake STP (single twisted pairs) cables that go to towers - DARM=5e-7

1255855654 23 Oct 2019 08:47:16 UTC (23 Oct 2019 10:47:16 CEST)

1255855852 23 Oct 2019 08:50:34 UTC (23 Oct 2019 10:50:34 CEST) – stop

On cable A - DARM=3e-7

1255855998 23 Oct 2019 08:53:00 UTC (23 Oct 2019 10:53:00 CEST)

1255856079 23 Oct 2019 08:54:21 UTC (23 Oct 2019 10:54:21 CEST)

On cable B (black cable) - DARM=5e-7

1255856204 23 Oct 2019 08:56:26 UTC (23 Oct 2019 10:56:26 CEST)

1255856282 23 Oct 2019 08:57:44 UTC (23 Oct 2019 10:57:44 CEST)

On cable C - DARM=2.5e-8

1255856335 23 Oct 2019 08:58:37 UTC (23 Oct 2019 10:58:37 CEST)

1255856425 23 Oct 2019 09:00:07 UTC (23 Oct 2019 11:00:07 CEST)

On cable D - DARM=3.3e-8

1255856465 23 Oct 2019 09:00:47 UTC (23 Oct 2019 11:00:47 CEST)

1255856525 23 Oct 2019 09:01:47 UTC (23 Oct 2019 11:01:47 CEST)

On cable E - DARM=4.8e-8

1255856550 23 Oct 2019 09:02:12 UTC (23 Oct 2019 11:02:12 CEST)

1255856629 23 Oct 2019 09:03:31 UTC (23 Oct 2019 11:03:31 CEST)

On cable F - DARM=6.7e-8

1255856644 23 Oct 2019 09:03:46 UTC (23 Oct 2019 11:03:46 CEST)

1255856706 23 Oct 2019 09:04:48 UTC (23 Oct 2019 11:04:48 CEST)

On cable G - DARM=5e-8

1255856734 23 Oct 2019 09:05:16 UTC (23 Oct 2019 11:05:16 CEST)

1255856779 23 Oct 2019 09:06:01 UTC (23 Oct 2019 11:06:01 CEST)

On cable H - DARM=1.4e-7

1255856819 23 Oct 2019 09:06:41 UTC (23 Oct 2019 11:06:41 CEST)

1255856975 23 Oct 2019 09:09:17 UTC (23 Oct 2019 11:09:17 CEST)

Coil on Sa\_OB – No evident peak in DARM but only noise floor at 1e-10

1255857012 23 Oct 2019 09:09:54 UTC (23 Oct 2019 11:09:54 CEST)

1255857206 23 Oct 2019 09:13:08 UTC (23 Oct 2019 11:13:08 CEST)

Coil on shutter driver - DARM=1e-7

1255857229 23 Oct 2019 09:13:31 UTC (23 Oct 2019 11:13:31 CEST)

1255857281 23 Oct 2019 09:14:23 UTC (23 Oct 2019 11:14:23 CEST)

Same position feritoia – DARM= 1e-6 come prima ( big pancake)

1255857325 23 Oct 2019 09:15:07 UTC (23 Oct 2019 11:15:07 CEST)

We are injecting white noise

1255857722 23 Oct 2019 09:21:44 UTC (23 Oct 2019 11:21:44 CEST)

Disconnetected magnetic probe at 9:33 UTC (more or less)

We connected the magnetic probe injecting white noise – channel ENV\_DET\_MAG\_V

1255858950 23 Oct 2019 09:42:12 UTC (23 Oct 2019 11:42:12 CEST)

Unlocked ITF

1255859102 23 Oct 2019 09:44:44 UTC (23 Oct 2019 11:44:44 CEST)

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*EE room \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

We are in EE room – channel ENV\_NOISE\_CEB\_Eeroom QUIET

1255862025 23 Oct 2019 10:33:27 UTC (23 Oct 2019 12:33:27 CEST)

We are injecting white noise 500+/- (490) Hz as in DET – no effect seen

1255862359 23 Oct 2019 10:39:01 UTC (23 Oct 2019 12:39:01 CEST)

No effect

1255862532 23 Oct 2019 10:41:54 UTC (23 Oct 2019 12:41:54 CEST)

Increased level – some structures appear around 150 Hz (simmetric with respect this peak)

1255862635 23 Oct 2019 10:43:37 UTC (23 Oct 2019 12:43:37 CEST)

Magnetic injection interrupted

1255862971 23 Oct 2019 10:49:13 UTC (23 Oct 2019 12:49:13 CEST)

Line 368 Hz (as in DET: 6V in DAC, 0.3 A amplifier and 22 V) – DARM= 4e-10

1255863148 23 Oct 2019 10:52:10 UTC (23 Oct 2019 12:52:10 CEST)

1255863407 23 Oct 2019 10:56:29 UTC (23 Oct 2019 12:56:29 CEST)

Coil on top of RACk 3 - DARM= 2e-10

1255863492 23 Oct 2019 10:57:54 UTC (23 Oct 2019 12:57:54 CEST)

Coil in front of RACK 5 – no effect in DARM, noise floor

1255863684 23 Oct 2019 11:01:06 UTC (23 Oct 2019 13:01:06 CEST)

1255863747 23 Oct 2019 11:02:09 UTC (23 Oct 2019 13:02:09 CEST)

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* BACK TO DET \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

In DET

1255865144 23 Oct 2019 11:25:26 UTC (23 Oct 2019 13:25:26 CEST)

Abbiamo trovato il cavo ☺

1255866508 23 Oct 2019 11:48:10 UTC (23 Oct 2019 13:48:10 CEST)

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ENV\_SDB1\_MAG\_V - probe was in symmetric position of SDB1 respect to the
coil (very very roughly) oriented along the beam.

white noise SDB1 SOUTH flange (same level used for the ELECTRONIC on the
terrace)
ACL\_FILTER\_BUTTERWORTH "flt3" "bandpass"  4 3 500 980        # -->  sets
order, att (dB), fcenter (f0) and bandwidth of the filter
ACL\_NOISE\_CH noise\_white                     "V"      5      SAMP\_FREQ 0.01

start

1255866544  23 Oct 2019 11:48:46 UTC  (23 Oct 2019 13:48:46 CEST)
see almost nothing in DARM

x5 ok see something, around 160Hz
1255866734  23 Oct 2019 11:51:56 UTC  (23 Oct 2019 13:51:56 CEST)
x2 see effect also around 400Hz
1255866881  23 Oct 2019 11:54:23 UTC  (23 Oct 2019 13:54:23 CEST)
stop