Cable Map
July 13, 2009
Linda Bagby

DS HCAL

Layer	module type	plane type	material	section	Module No.	Scint Plane No.	Group No.	Module Set	# of PMTs	FESB WEST Chs	FESB EAST Chs
222	DS Hcal	v		DS HCAL Region	114	196	54	MS27	11	6	5
221		Fe			114						
220	DS Hcal	x			113	195					
219		Fe			113						
218	DS Hcal	u			112	194	53				
217		Fe			112						
216	DS Hcal	x			111	193					
215		Fe			111						
214	DS Hcal	v			110	192	52	MS26	11	6	5
213		Fe			110						
212	DS Hcal	x			109	191					
211		Fe			109						
210	DS Hcal	u			108	190	51				
209		Fe			108						
208	DS Hcal	x			107	189					
207		Fe			107						
206	DS Hcal	v			106	188	50	MS25	11	6	5
205		Fe			106						
204	DS Hcal	x			105	187					
203		Fe			105						
202	DS Hcal	u			104	186	49				
201		Fe			104						
200	DS Hcal	x			103	185					
199		Fe			103						
198	DS Hcal	v			102	184	48	MS24	11	6	5
197		Fe			102						
196	DS Hcal	x			101	183					
195		Fe			101						
194	DS Hcal	u			100	182	47				
193		Fe			100						
192	DS Hcal	x			99	181					
191		Fe			99						
190	DS Hcal	v			98	180	46	MS23	11	6	5
189		Fe			98						
188	DS Hcal	x			97	179					
187		Fe			97						
186	DS Hcal	u			96	178	45				
185		Fe			96						
184	DS Hcal	x			95	177					
183		Fe			95						

- Pilfered from DocDB #230 (Bob Flight).
- Plane type updated by B. Bradford.
- DS HCAL is composed of 5 Modules Sets.
- MS23-MS27.
- Each MS requires 11 channels of power.
- Each FESB provides 10.
- Distributing power on both sides, W:6, E:5.
- FESB name corresponds to MS.
- Ex. FESB23E, FESB23W.

DS ECAL

182	DS Ecal	x		DS ECAL Region	94	176	44	MS22	19	10	9
181		pn/v			94	175					
180	DS Ecal	pb/x			93	174					
179		pb/u			93	173					
178	DS Ecal	pb/x			92	172	43				
177		pb/v			92	171					
176	DS Ecal	pb/x			91	170					
175		pb/u			91	169					
174	DS Ecal	pb/x			90	168	42	MS21	19	10	9
173		pb/v			90	167					
172	DS Ecal	pb/x			89	166					
171		pb/u			89	165					
170	DS Ecal	pb/x			88	164	41				
169		pb/v			88	163					
168	DS Ecal	pb/x			87	162					
167		pb/u			87	161					
166	DS Ecal	pb/x			86	160	40	MS20	19	10	9
165		pb/v			86	159					
164	DS Ecal	pb/x			85	158					
163		pb/u			85	157					

- Composed of 2.5 MS (MS20-22)
- MS20 has ½ DS ECAL and ½ Active Target Region (AT)
- Each MS requires 19 channels of power, W:10, E:9.

Active Region – Nuclear Target

- Active Region
  - Composed of ½ MS20, MS6-MS19, ½ MS5 –14 full MS, two ½ MS.
  - MS20 shared with DS ECAL
  - MS5 shared with Nuclear Target Region (NT)
  - MS7-MS20 requires 19 channels of power, W:10, E:9.
  - MS5 and 6 requires 20 channels due to Target Modules, W:10, E:10.

- Nuclear Target Region
  - Composed of 4 and ½ MS, MS1-4 are full, MS5 is ½ NT and ½ AT.
  - Requires 20 channels of power, W:10, E:10.

Targets, CROCs, FESBs

Target	Material	Module #	MS
Target #1	Pb , STL	1	MS1
Target #2	Pb , STL	6	MS2
Target #3	C, Pb, STL	11	MS3
Target #3.1	C, Pb, STL	12	MS4
Target #4	Pb	17	MS5
Target #5	Pb, STL	22	MS6

Detector	Rout Chs, FESB	
DS HCAL	10	
DS ECAL	4	
AT	32	(Includes two 1/2 MS)
NT	8	(Doesn't include 1/2 MS)

- Targets are powered by FESBs associated with MS1-6.
- Number of readout channels and FESBs are the same.
- Required CROCs: 14
- Required FESBs: 55 (54+1)
- +1 is for the VETO

FEB - WEST

Module No.														
114	MS27													
114														
113		114												
113	CROC CHAN	113	FESB 27W		6		5		4		3		2		1
112		112												
112	DS HCAL	111												
111														
111														
110	MS26													
110														
109		110												
109	CROC CHAN	109	FESB 26W		6		5		4		3		2		1
108		108												
108	DS HCAL	107												
107														
107														
106	MS25													
106														
105		106												
105	CROC CHAN	105	FESB 25W		6		5		4		3		2		1
104		104												
104	DS HCAL	103												
103														
103														

...can include CROC and Channel number once crate layout is determined.

Pilfered from Paul – Thanks Paul!

FEB - EAST

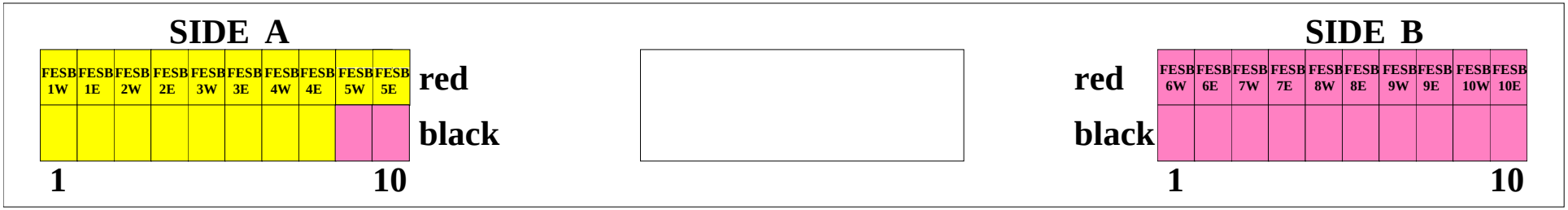
PLANE TYPE									
u									MS27
Fe									
x								114	
Fe	5	4	3	2	1	FESB 27E		113	CROC1CHAN
v								112	
Fe								111	
x									
Fe									
u									MS26
Fe									
x								110	
Fe	5	4	3	2	1	FESB 26E		109	CROC CHAN
v								108	
Fe								107	
x									
Fe									
u									MS25
Fe									
x								106	
Fe	5	4	3	2	1	FESB 25E		105	CROC CHAN
v								104	
Fe								103	
x									
Fe									

Fuse Panels

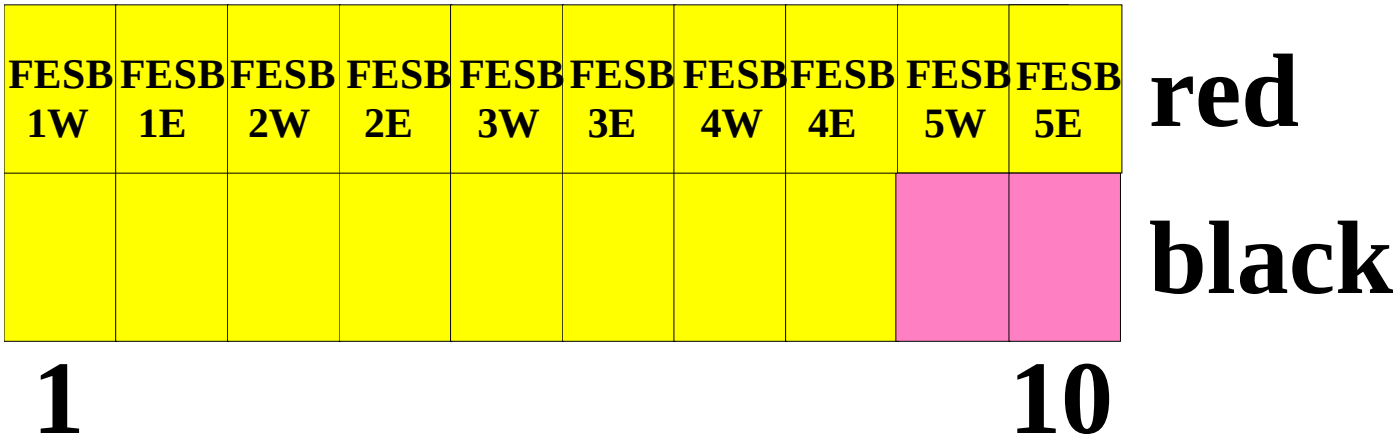
Nuclear Target Region

Active Target Region

Fuse Panel Chassis: Front Panel 1



SIDE A

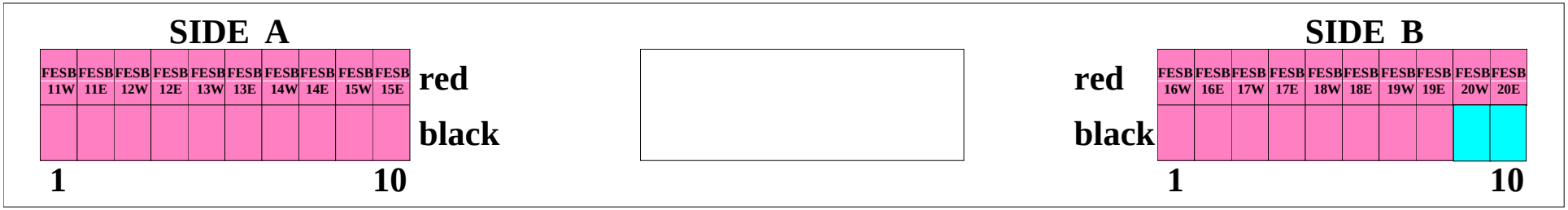


Fuse Panels

Active Target Region

DS ECAL

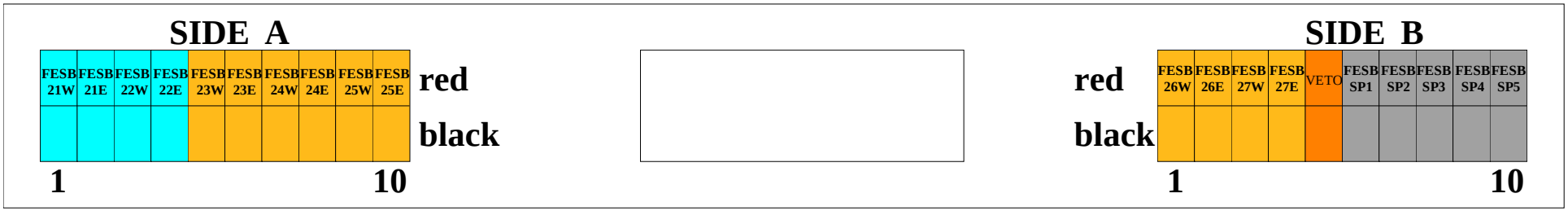
Fuse Panel Chassis: Front Panel 2



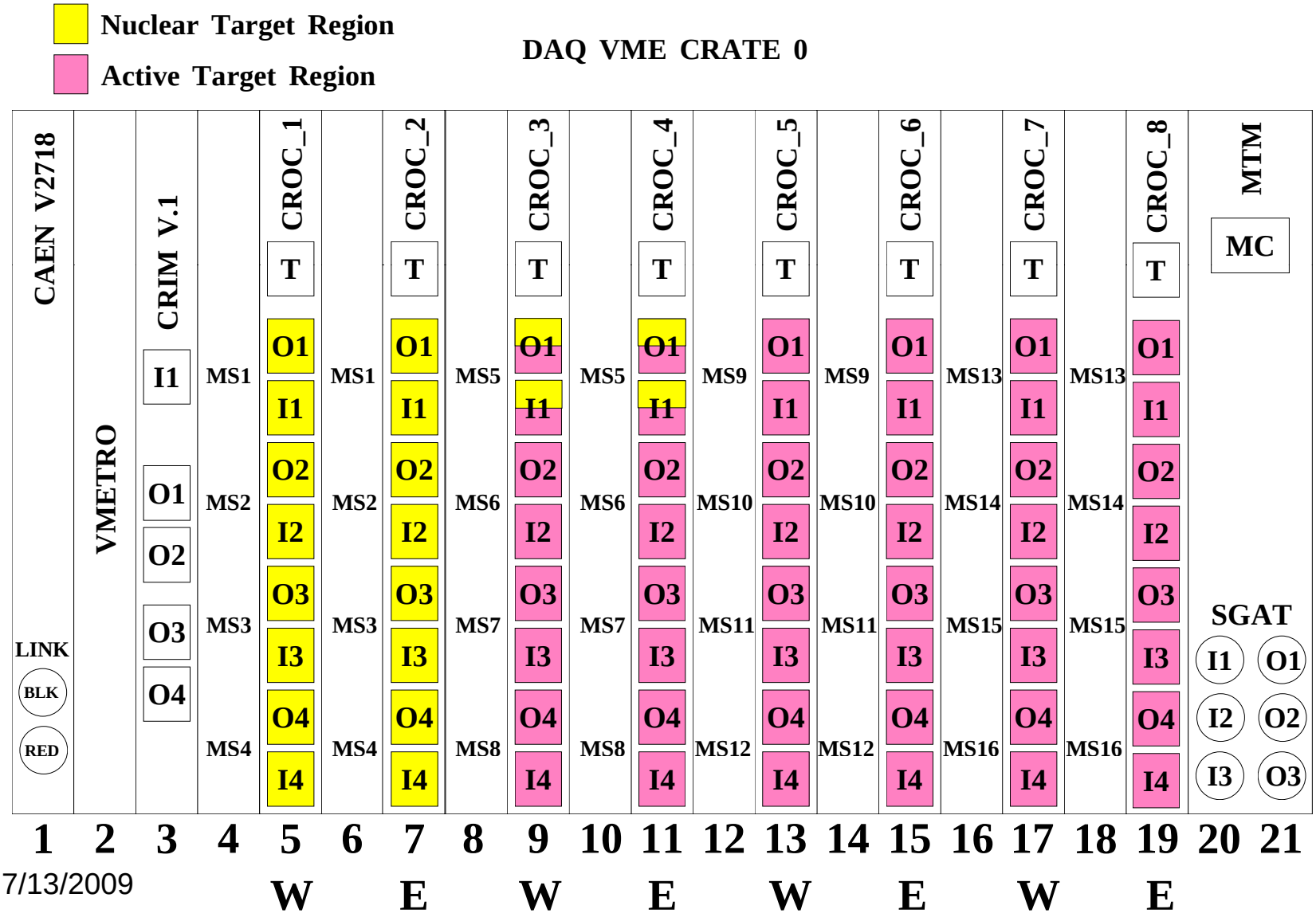
DS HCAL

VETO

Fuse Panel Chassis: Front Panel 3



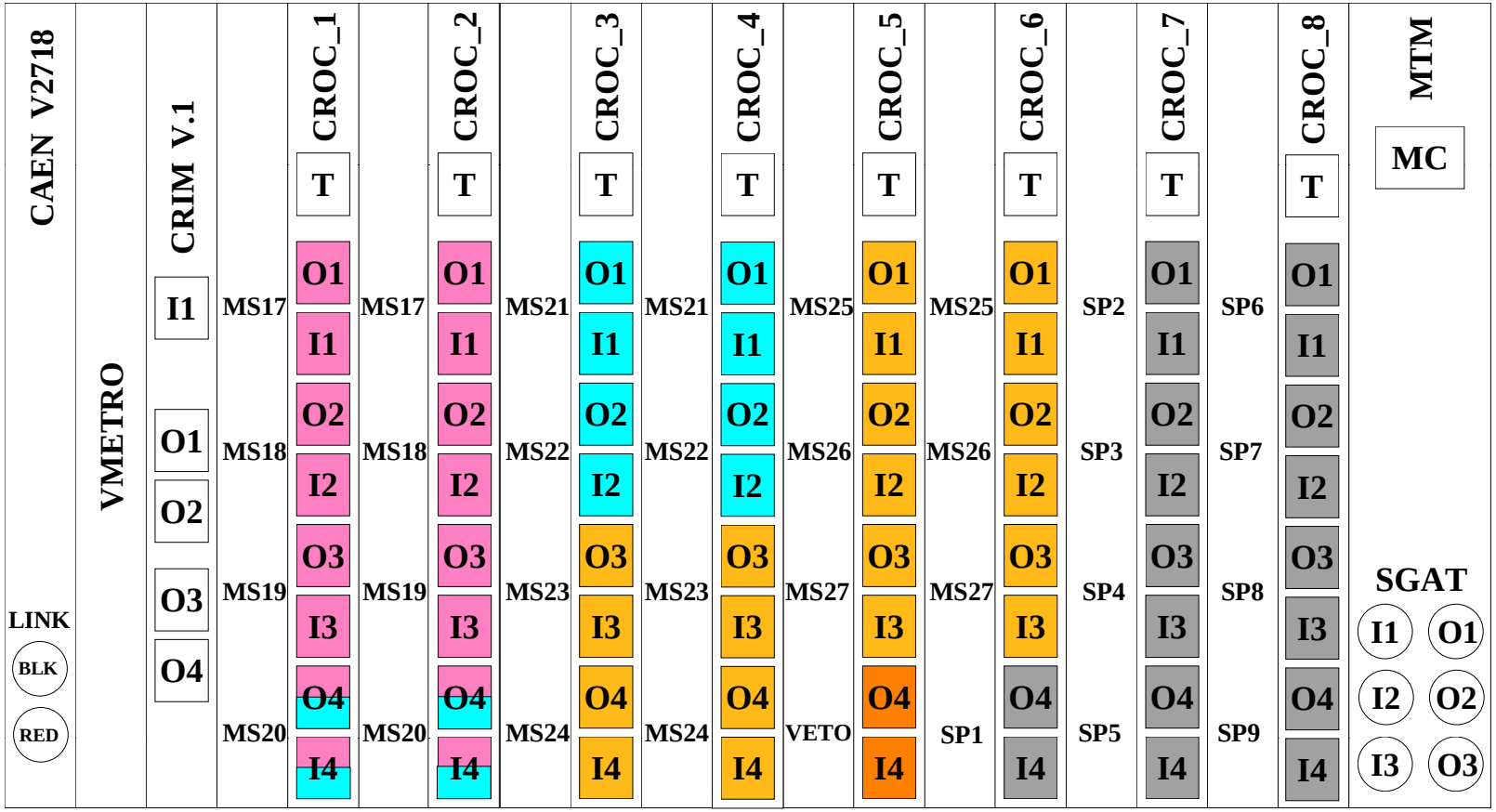
VME CRATE 0


Nuclear Target Region
Active Target Region
DAQ VME CRATE 0
CAEN V2718
LINK
BLK
RED
VMETRO
CRIM V.1
I1
O1
O2
O3
O4
MS1
MS2
MS3
MS4
CROC_1
CROC_2
CROC_3
CROC_4
CROC_5
CROC_6
CROC_7
CROC_8
T
O1
I1
O2
I2
O3
I3
O4
I4
MS5
MS6
MS7
MS8
MS9
MS10
MS11
MS12
MS13
MS14
MS15
MS16
MTM
MC
SGAT
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
W E W E W E W E

VME CRATE 1

Active Target Region
DS ECAL
DS HCAL
VETO

DAQ VME CRATE 1



Suggested Label Nomenclature

- What information do we need on our labels?
  - Installation point of view
    - Source and Destination
      - Rack_Crate_Slot_Channel
  - Software point of view (USER FIELD)
    - Det_CROC crate.name.Chain.Channel ??
  - Abbreviations
    - NT: Nuclear Target Region
    - AT: Active Target Region
    - DS ECAL: ECAL
    - DS HCAL: HCAL
    - Fuse Panel: FP1 – FP3

48V Power:
Fuse Panel→FESB
For MS1W

0001 MINERνA_MS1W DAQ_FP1_A1 MS1_FESB1W_48V NT_CROC0.1.0.1

Label Example

- FEB→CROC for MS27, West
  - Det_CROCcrate.name.Chain.Channel

User Field →

0002 MINERνA_MS27W HCAL_FEB6W_IN DAQ_1_13_O3 HCAL_CROC1.5.2.3