

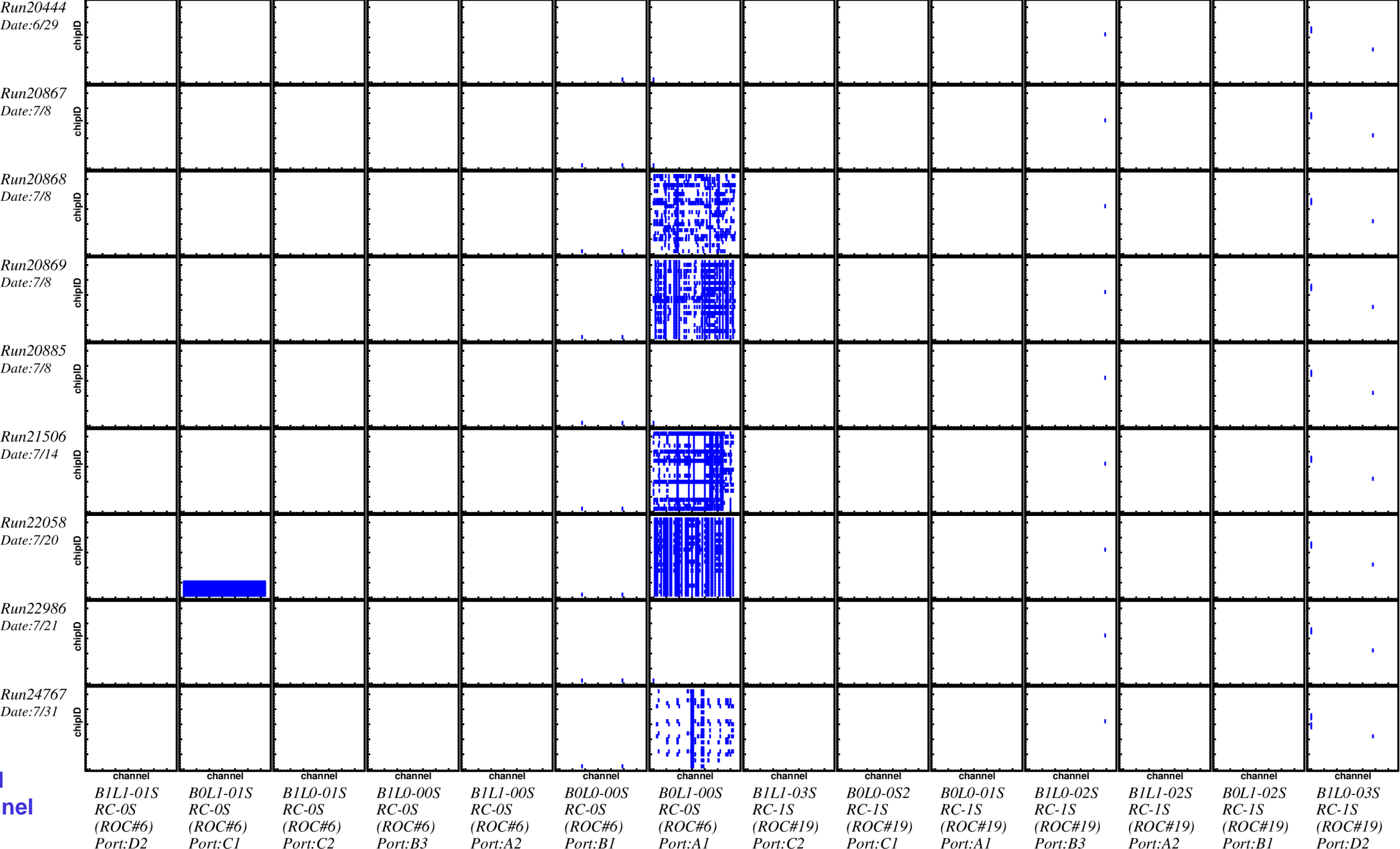
ROC stability check for Run23

Akitomo Enokizono

How to check the ROC instability for Run23

- Based on Jaein's dead map files (Many thanks to Jaein for quickly creating the map files!)
- Following 9 runs are picked up (randomly but to cover at least one run per week)
 - Run20444; 6/29
 - Run20867, 20868, 20869, 20885; 7/8
 - Run21506; 7/14
 - Run22058; 7/20
 - Run22986; 7/21
 - Run24767; 7/31
- Information of runs, ladder ID, ROC number, port number etc, is based on the following spreadsheets.
 - https://docs.google.com/spreadsheets/d/19PSvkhAQA8rnkP0z_wpN87CWQ6O-f3bT/edit#gid=1658598300
 - https://docs.google.com/spreadsheets/d/11jsgrsI7pS02Ia_Huew4Fw-nbNwOzI6VhbI0nRYUX-w/edit#gid=1976652756
 - <https://docs.google.com/spreadsheets/d/1Cj2CWWw6psGGJb9fU8SJ0dxWAL2nAFakSCiorTXfm7A/edit#gid=0>

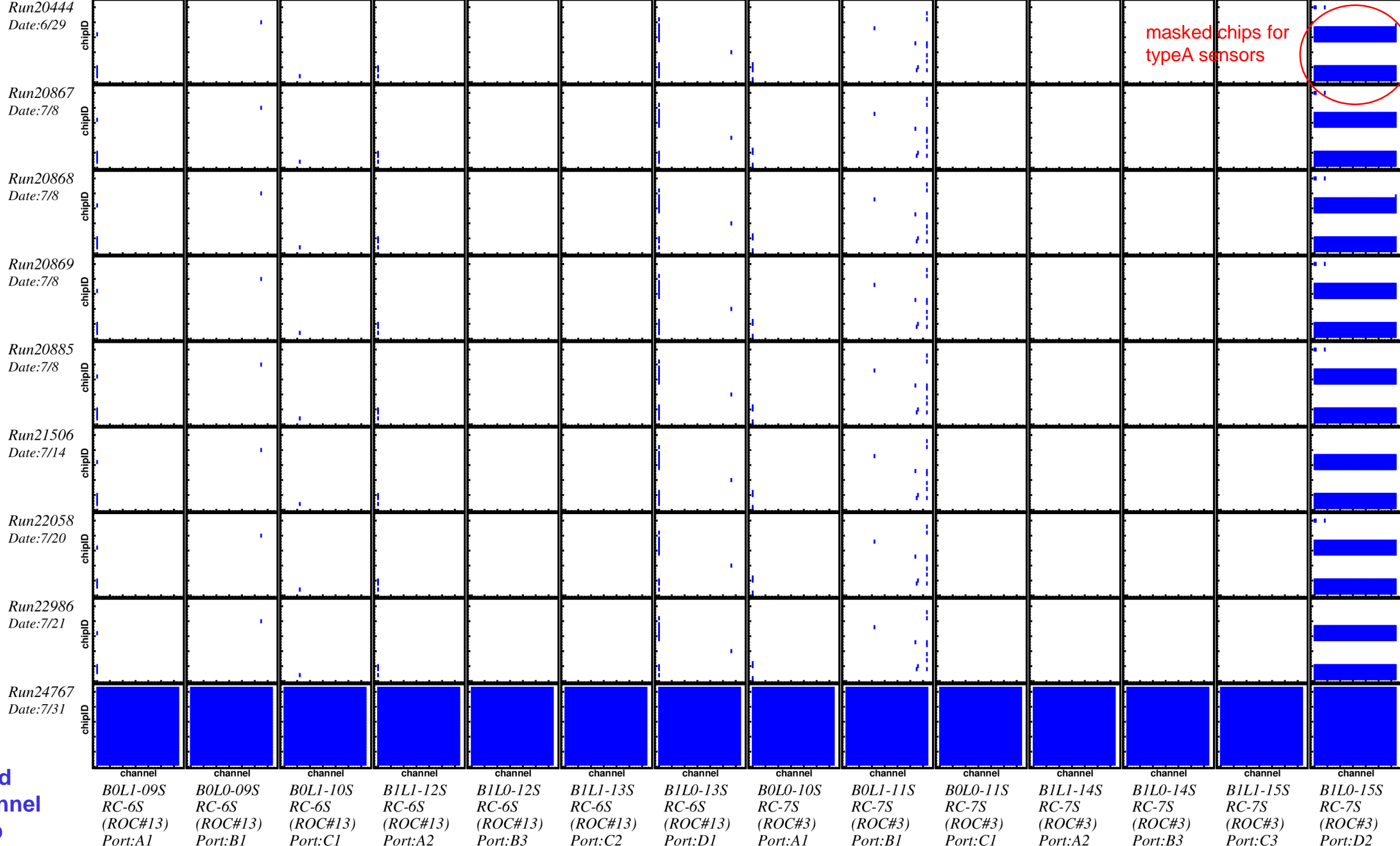
Dead
channel
map



Run24767
Date:7/31

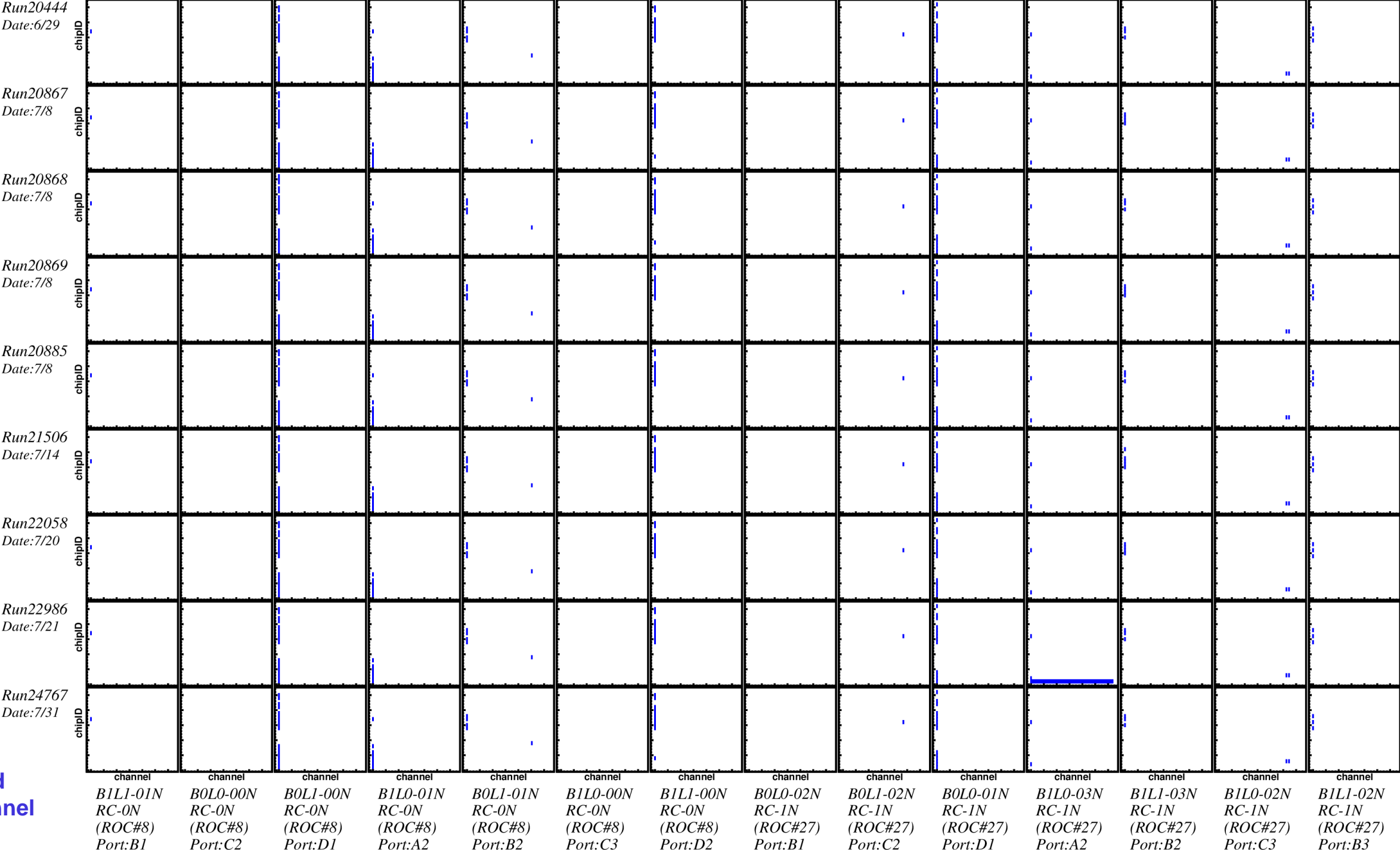
channel	channel	channel	channel	channel	channel	channel	channel	channel	channel	channel	channel	channel	channel
<i>B1L1-05S</i>	<i>B0L1-04S</i>	<i>B0L1-03S</i>	<i>B1L0-04S</i>	<i>B1L1-04S</i>	<i>B0L0-03S</i>	<i>B1L0-05S</i>	<i>B1L1-07S</i>	<i>B0L0-05S</i>	<i>B0L0-04S</i>	<i>B1L0-06S</i>	<i>B1L1-06S</i>	<i>B0L1-05S</i>	<i>B1L0-07S</i>
<i>RC-2S</i>	<i>RC-2S</i>	<i>RC-2S</i>	<i>RC-2S</i>	<i>RC-2S</i>	<i>RC-2S</i>	<i>RC-2S</i>	<i>RC-3S</i>	<i>RC-3S</i>	<i>RC-3S</i>	<i>RC-3S</i>	<i>RC-3S</i>	<i>RC-3S</i>	<i>RC-3S</i>
<i>(ROC#28)</i>	<i>(ROC#28)</i>	<i>(ROC#28)</i>	<i>(ROC#28)</i>	<i>(ROC#28)</i>	<i>(ROC#28)</i>	<i>(ROC#28)</i>	<i>(ROC#20)</i>	<i>(ROC#20)</i>	<i>(ROC#20)</i>	<i>(ROC#20)</i>	<i>(ROC#20)</i>	<i>(ROC#20)</i>	<i>(ROC#20)</i>
<i>Port:C2</i>	<i>Port:C1</i>	<i>Port:A2</i>	<i>Port:B3</i>	<i>Port:A1</i>	<i>Port:B1</i>	<i>Port:D2</i>	<i>Port:C2</i>	<i>Port:C1</i>	<i>Port:A1</i>	<i>Port:B2</i>	<i>Port:A2</i>	<i>Port:B1</i>	<i>Port:D1</i>

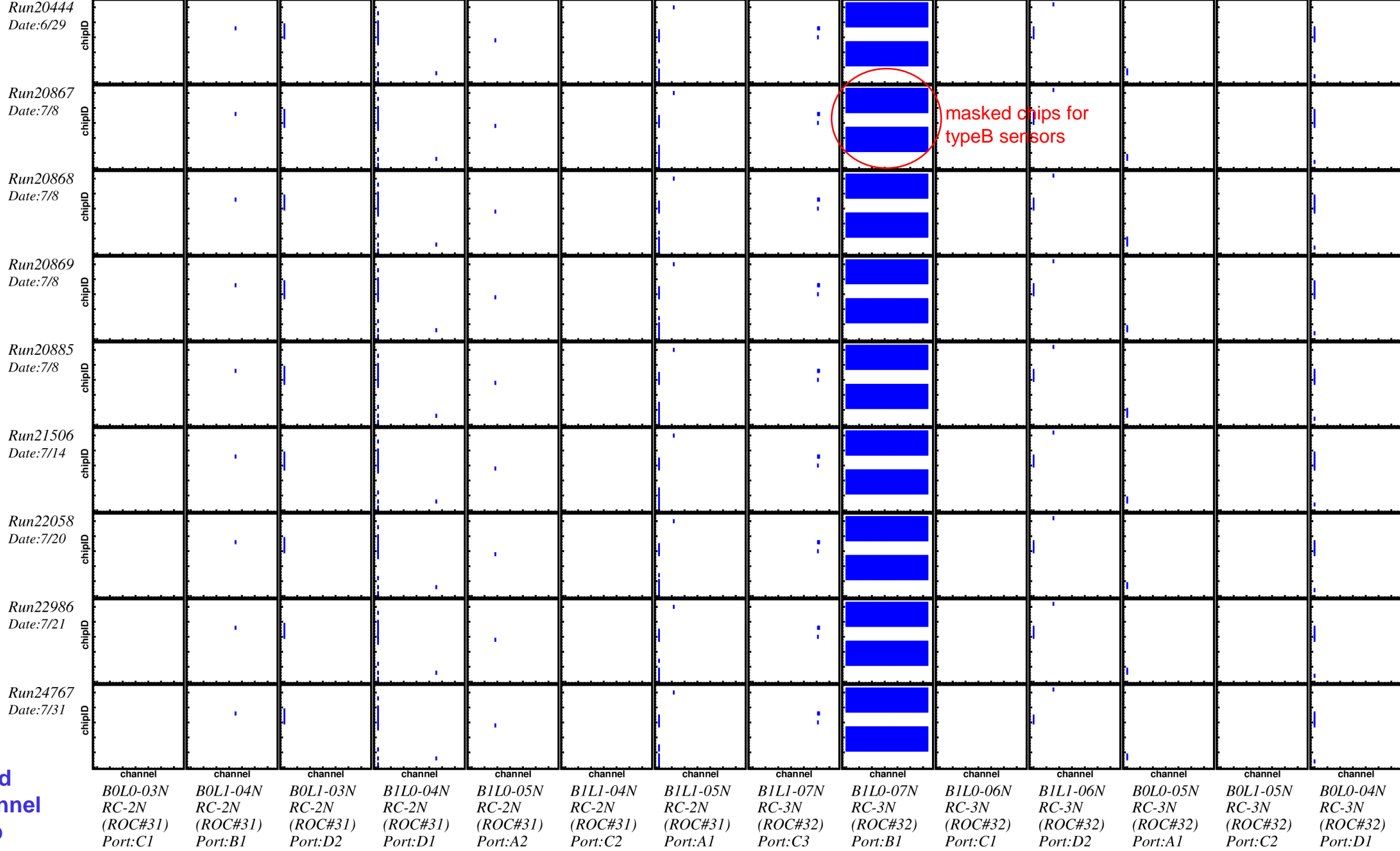
4



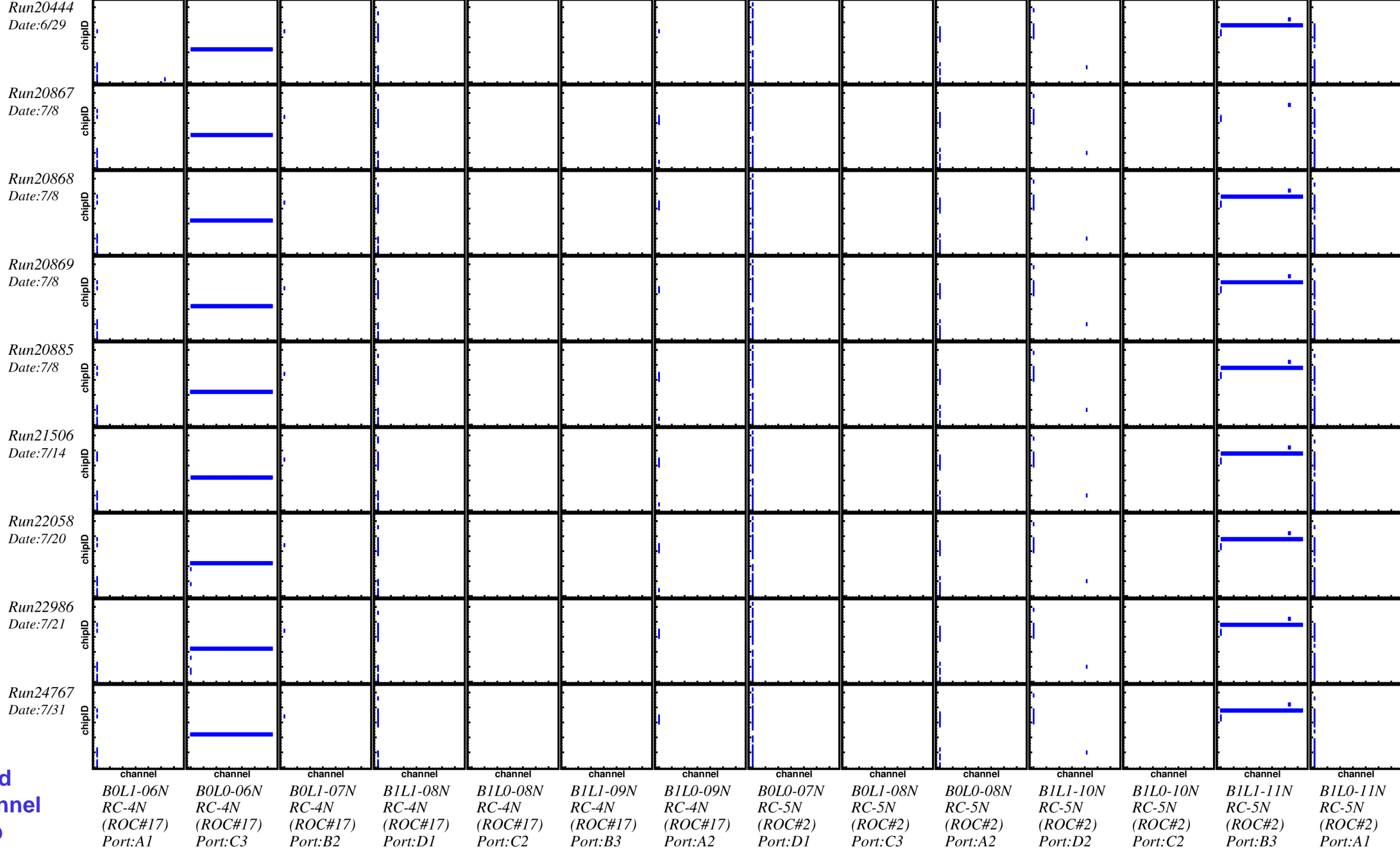
Dead
channel
map

Dead
channel
map



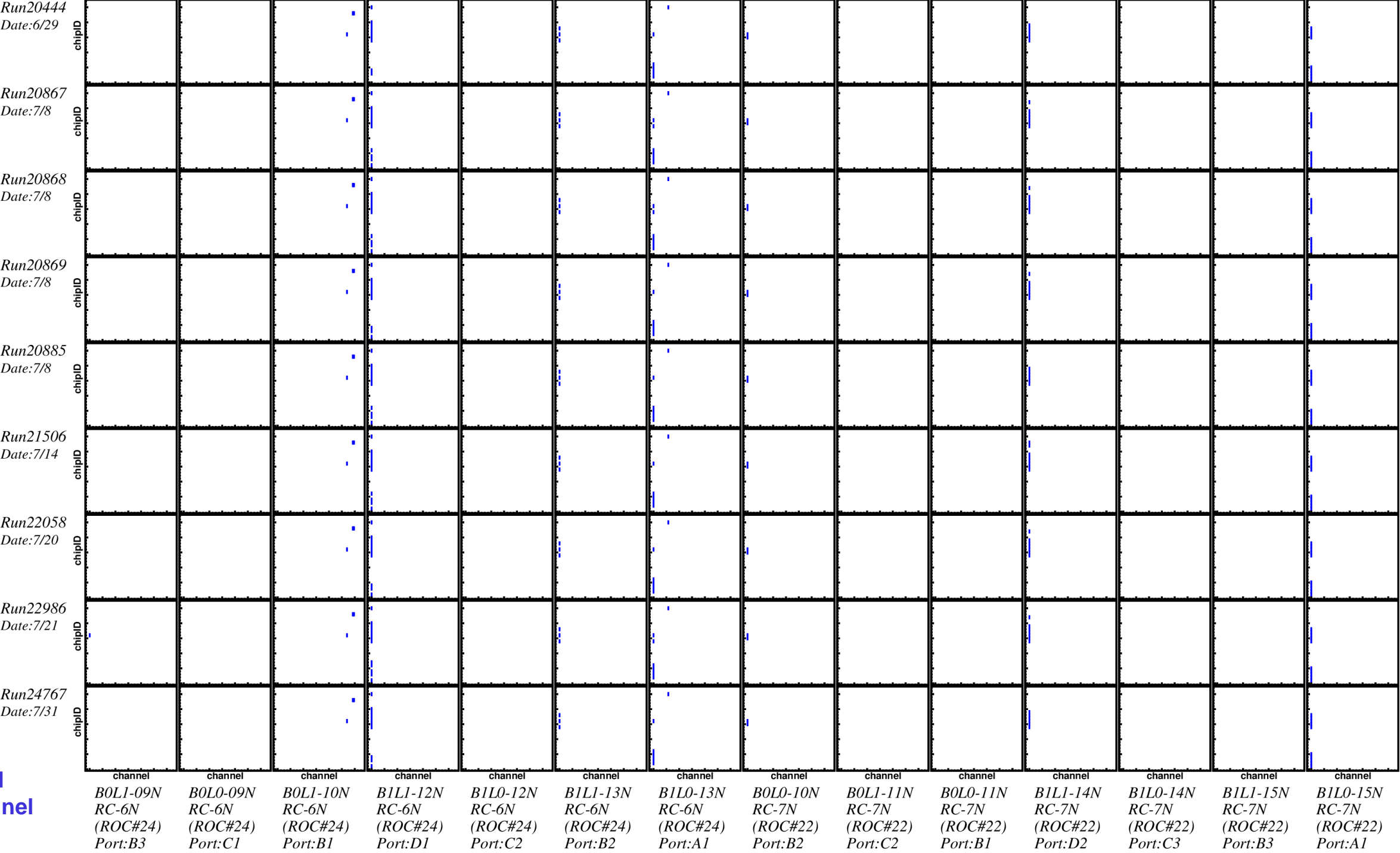


Dead
channel
map



Dead
channel
map

Dead
channel
map



Result

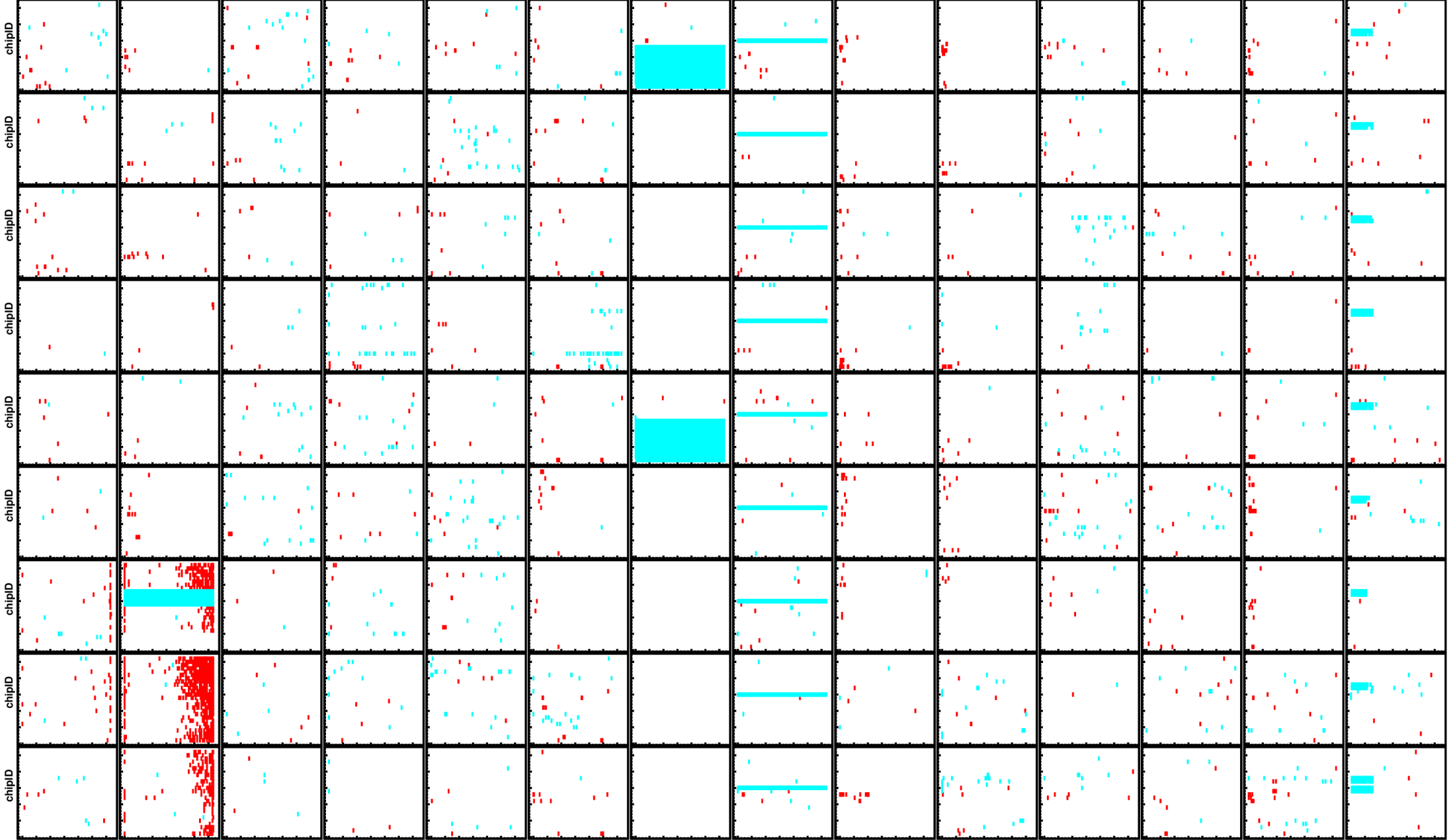
- Port A1 on RC-0S (ROC#6) shows run-by-run instability. Should be best avoided.
 - Rachid replaced ROC#6 with ROC#18 for RC-0S, so no problem already (as long as ROC#18 has no issue.)

Extra Sildes

- Run-by-run dependence of hot/cold maps
 - This instability is nothing to do with the ROC instability but the other cause.
 - DAC values are same for analyzed runs
 - The condition of Jaein's analysis:
 - Hot channel $> \text{mean} + 3\sigma$, Cold channel $< \text{mean} - 3\sigma$

Run24767
Date:7/31

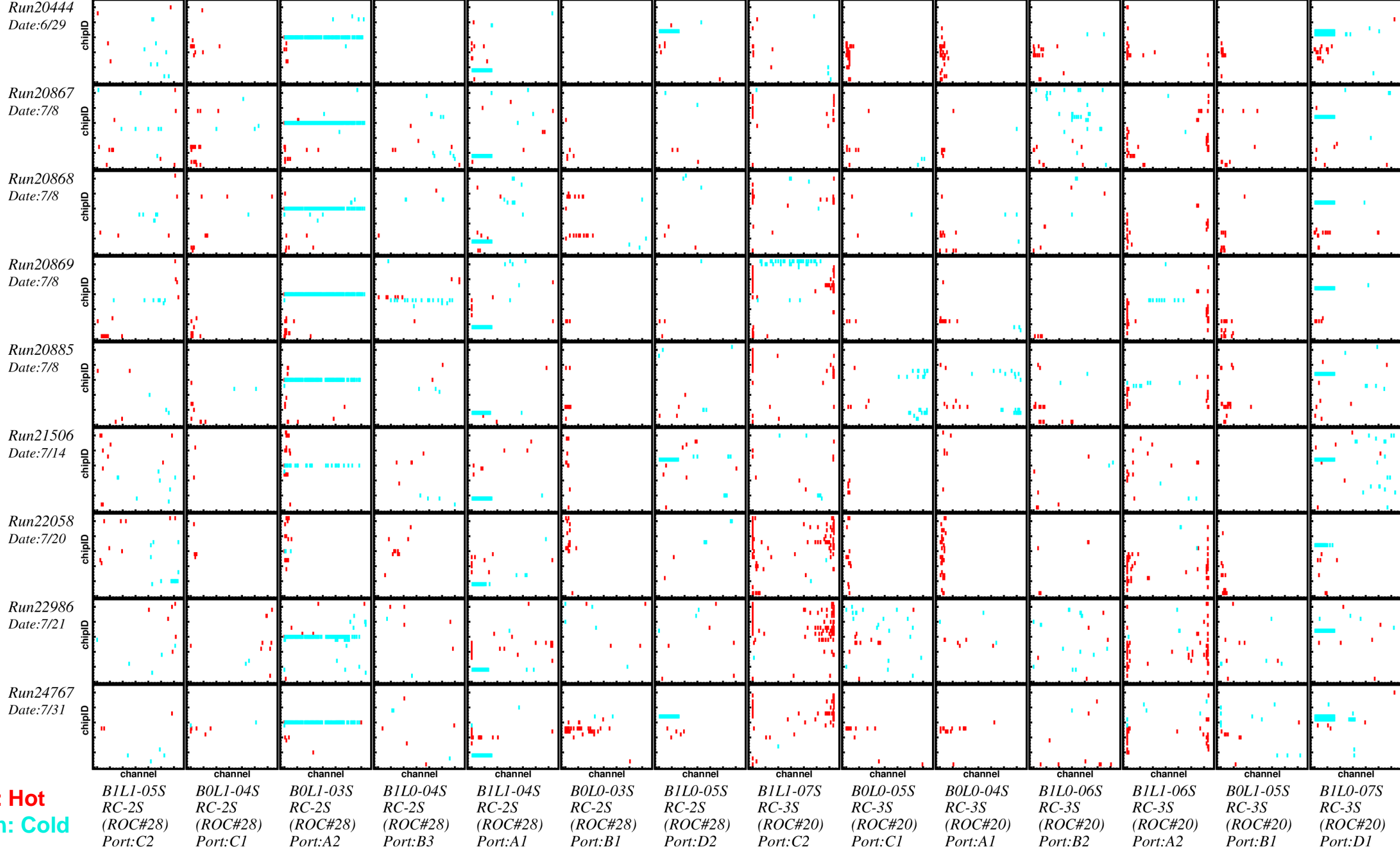
chipID

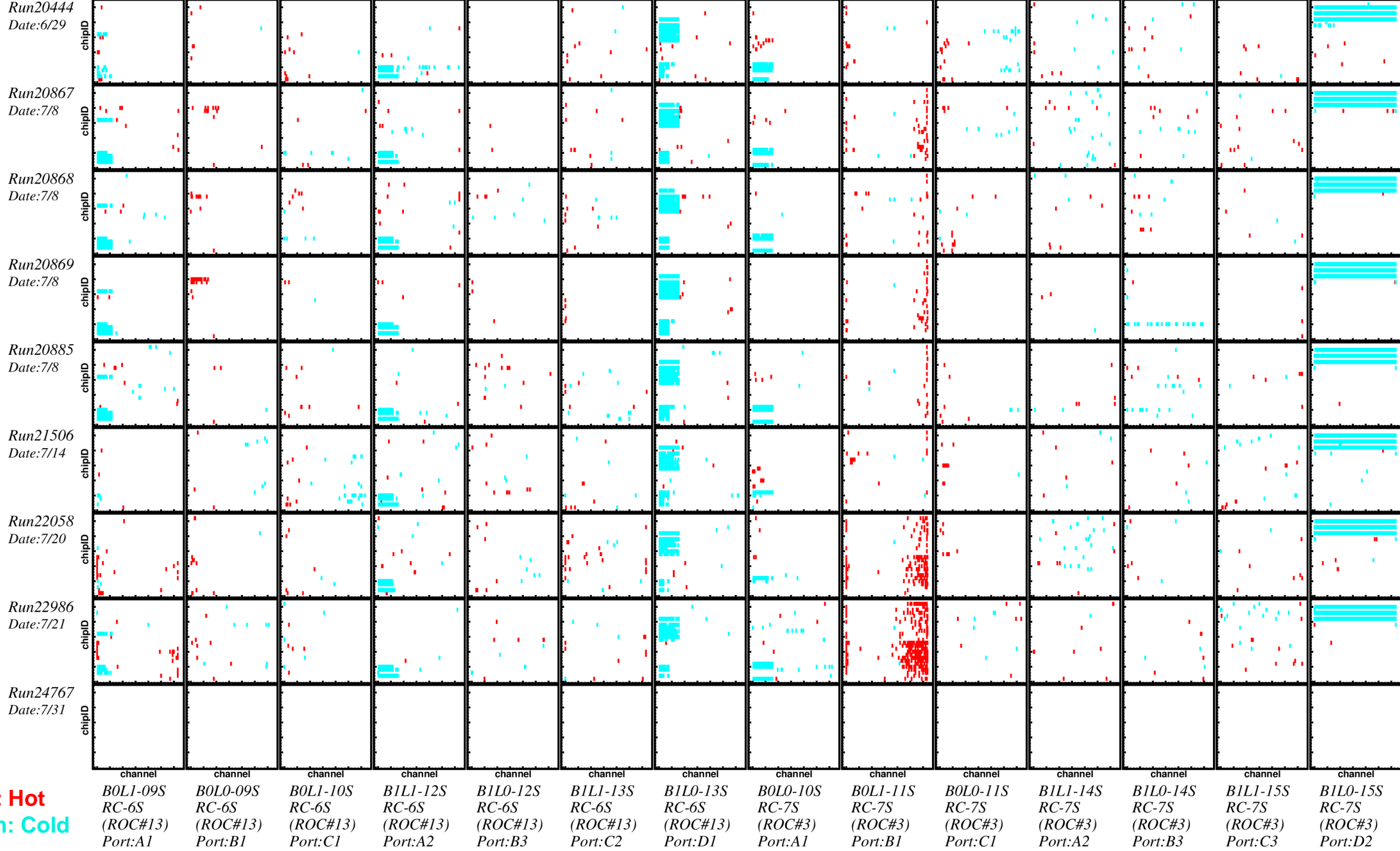


35

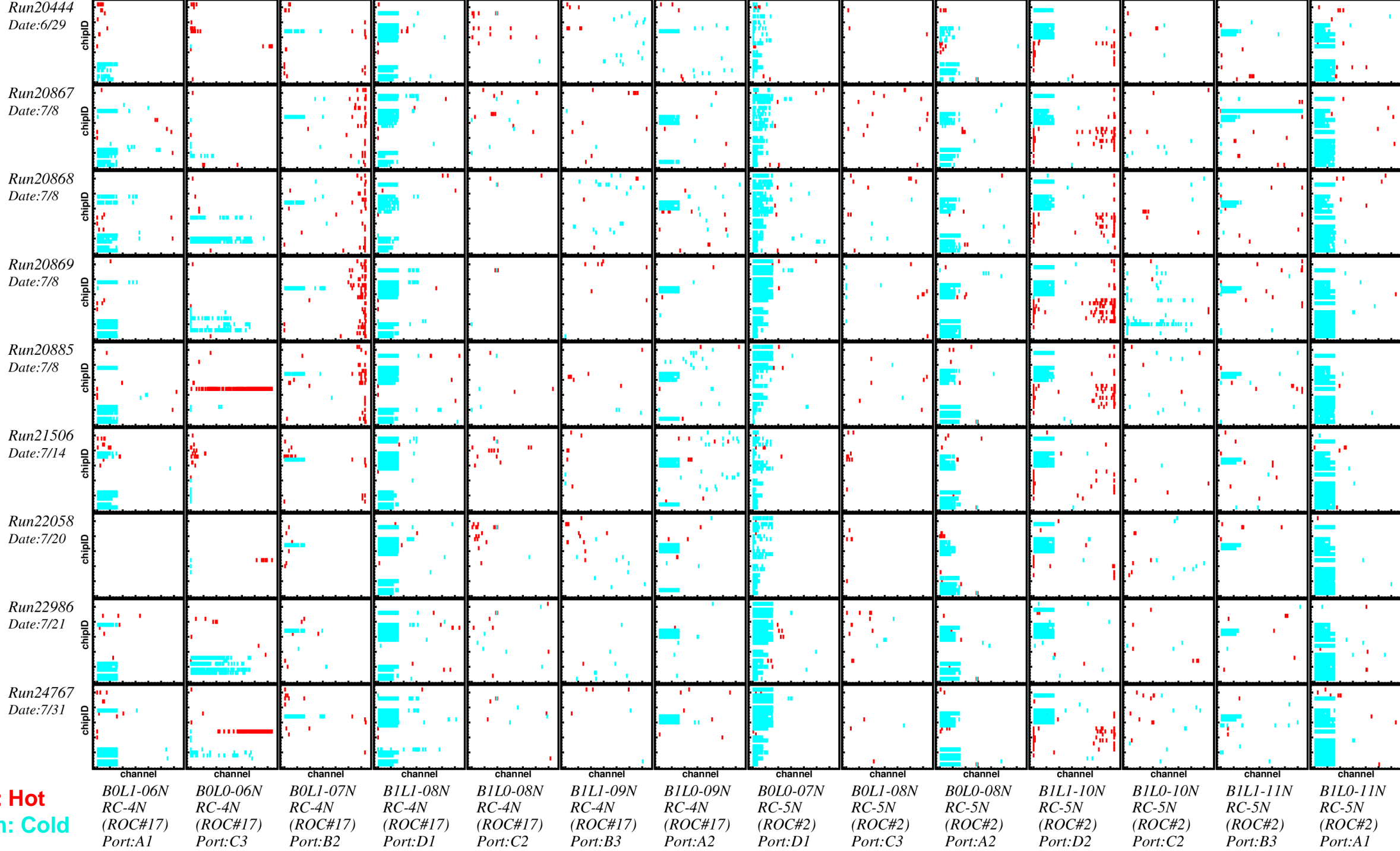
9) 12

15





Red: Hot
Cyan: Cold



Red: Hot
Cyan: Cold

