

# **SDC PDS4 2025 Review**

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**Feb. 10, 2025**

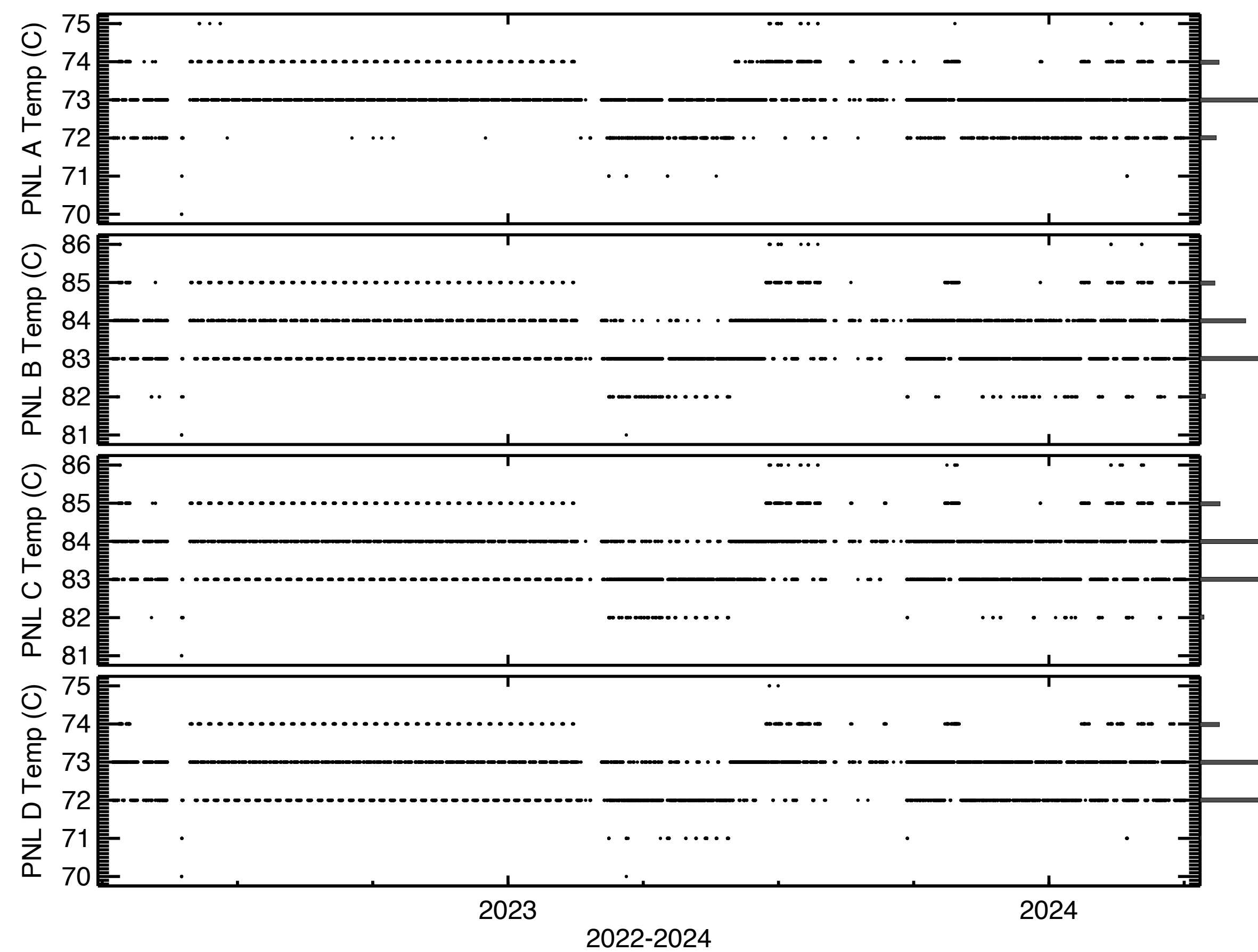
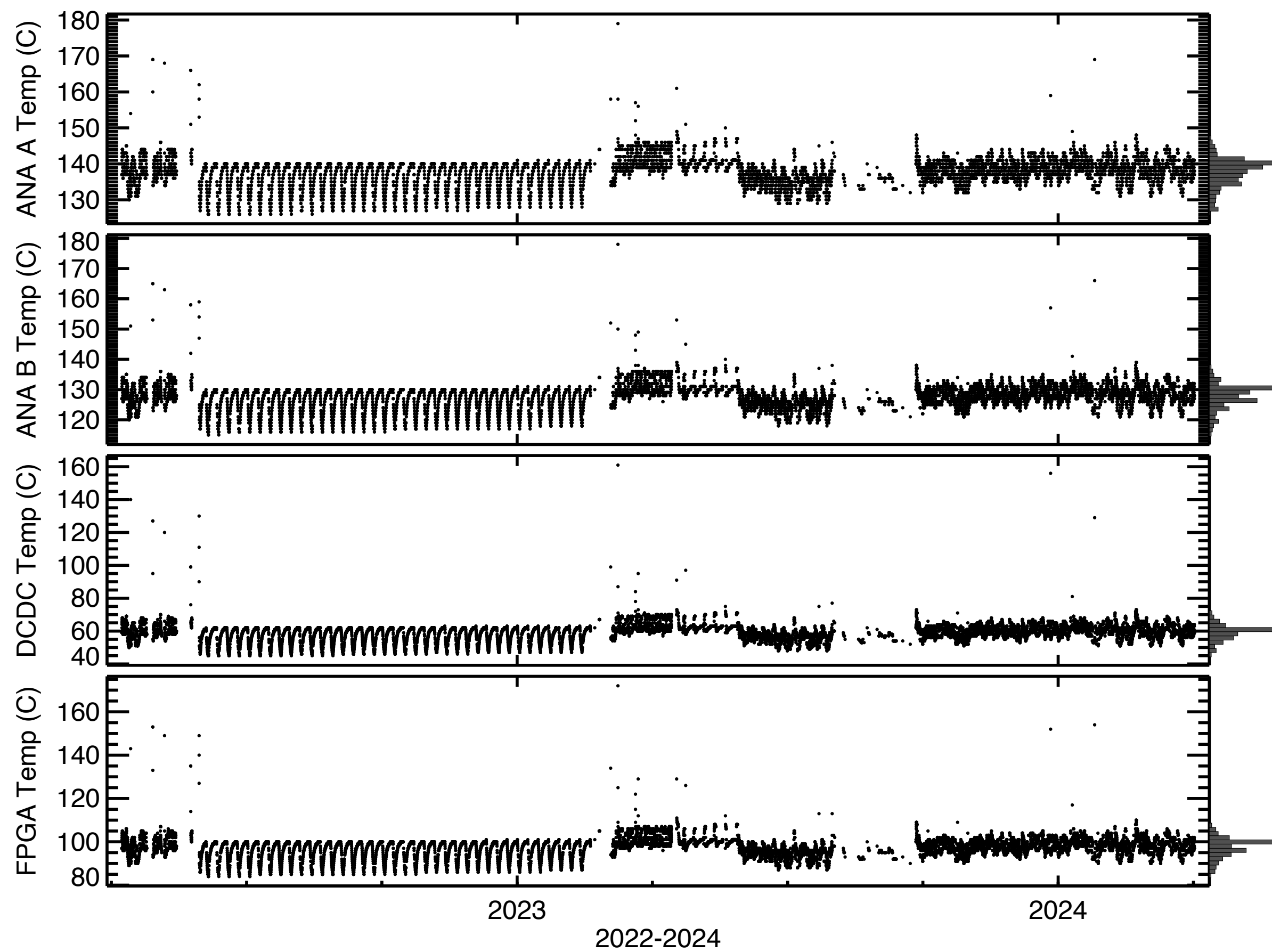


# Overview

- Read raw (PDS3 Level 2) data: kem1\_raw, kem2\_raw
  - Plotted and assessed subset of temperatures and voltages
- Read cal (PDS3 Level 3) data: kem1\_cal, kem2\_cal
  - Plotted and assessed event amplitude distributions



# Level 2 Data



*Oscillating temperatures did not return in the same way after early 2023.*

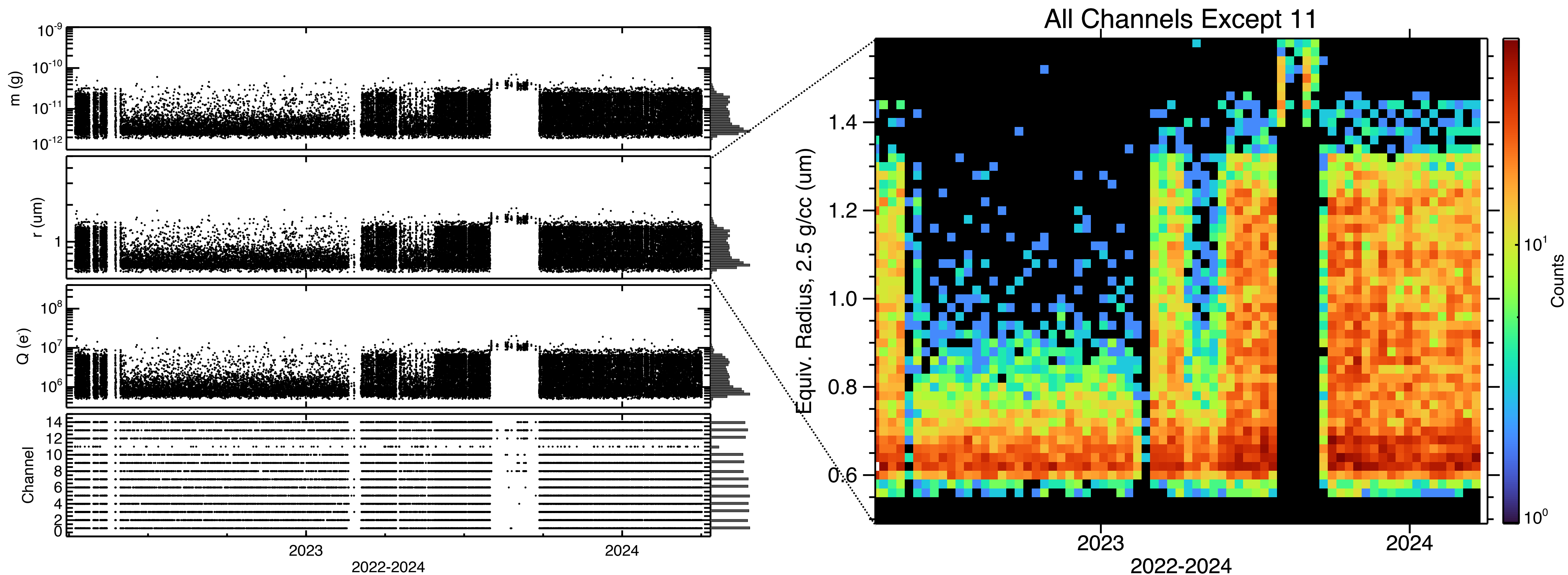


# Assessment of Level 2 Data

- Read raw data: kem1\_raw, kem2\_raw
- Level 2 Channel\_IDs all matched Level 3 Channels
  - 1-1 mapping L2 → L3
- No discrepancies observed between Level 2 and Level 3 data



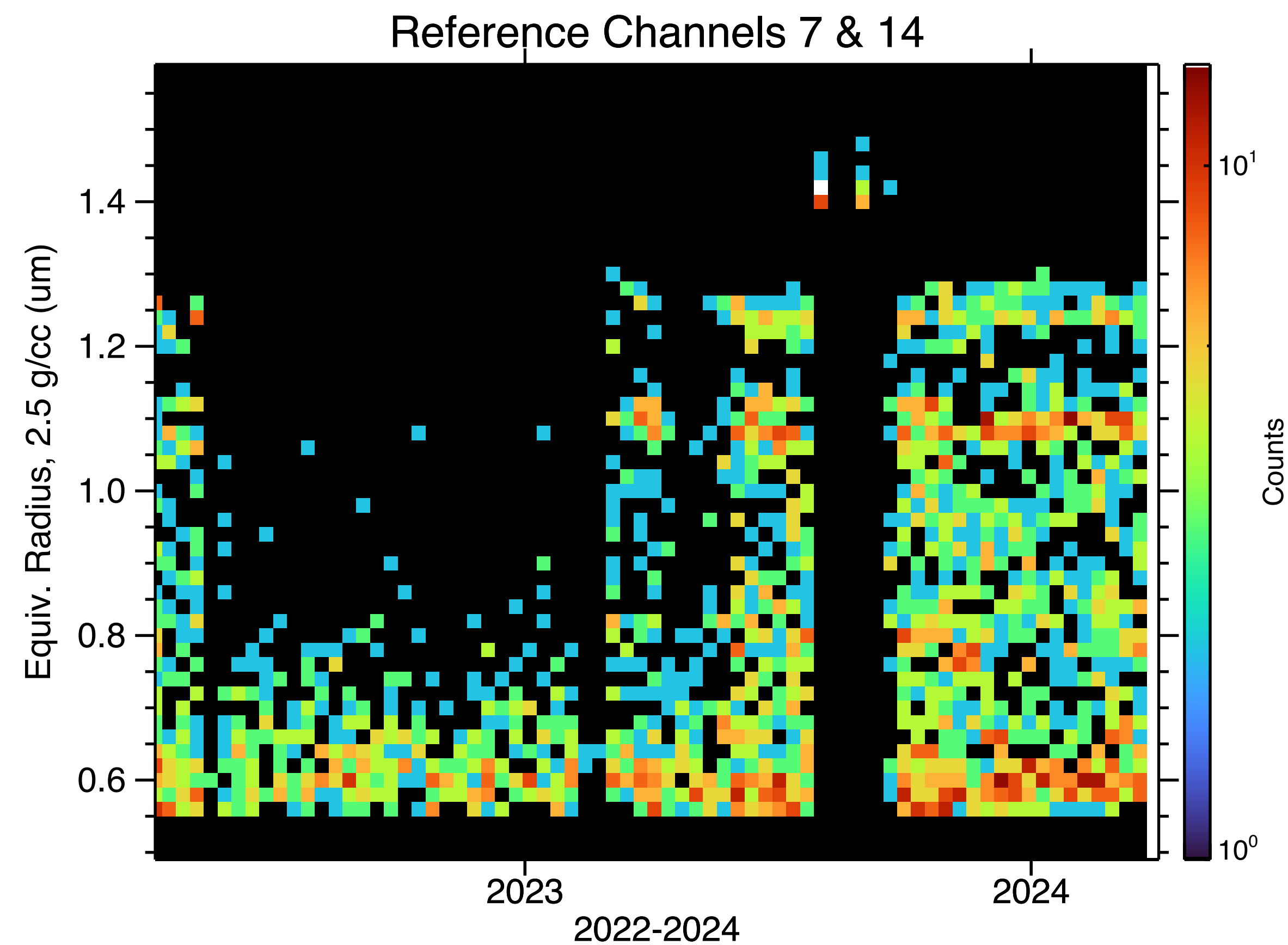
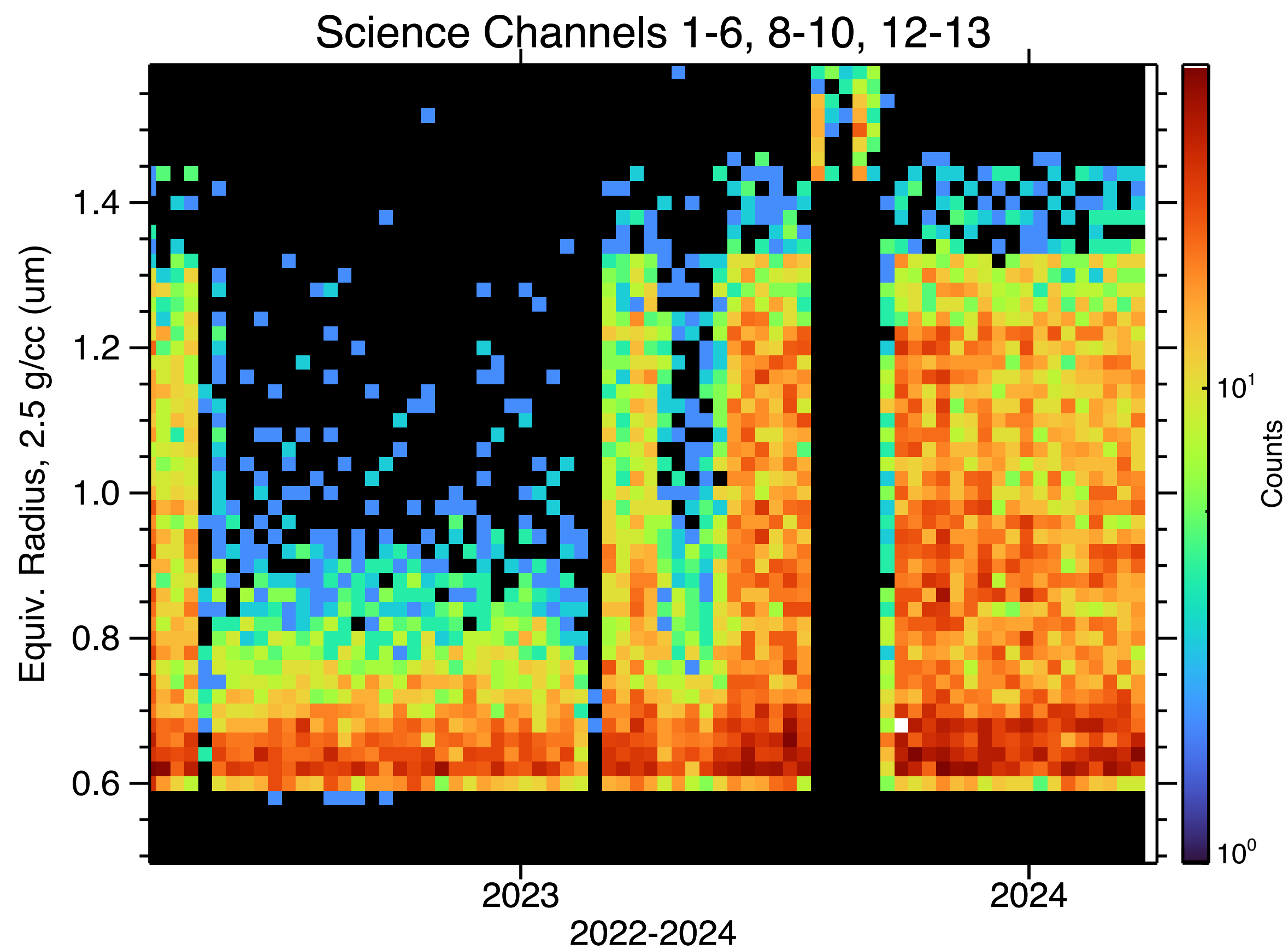
# Level 3 Data: All events



\*All spectrograms have thruster firing events removed



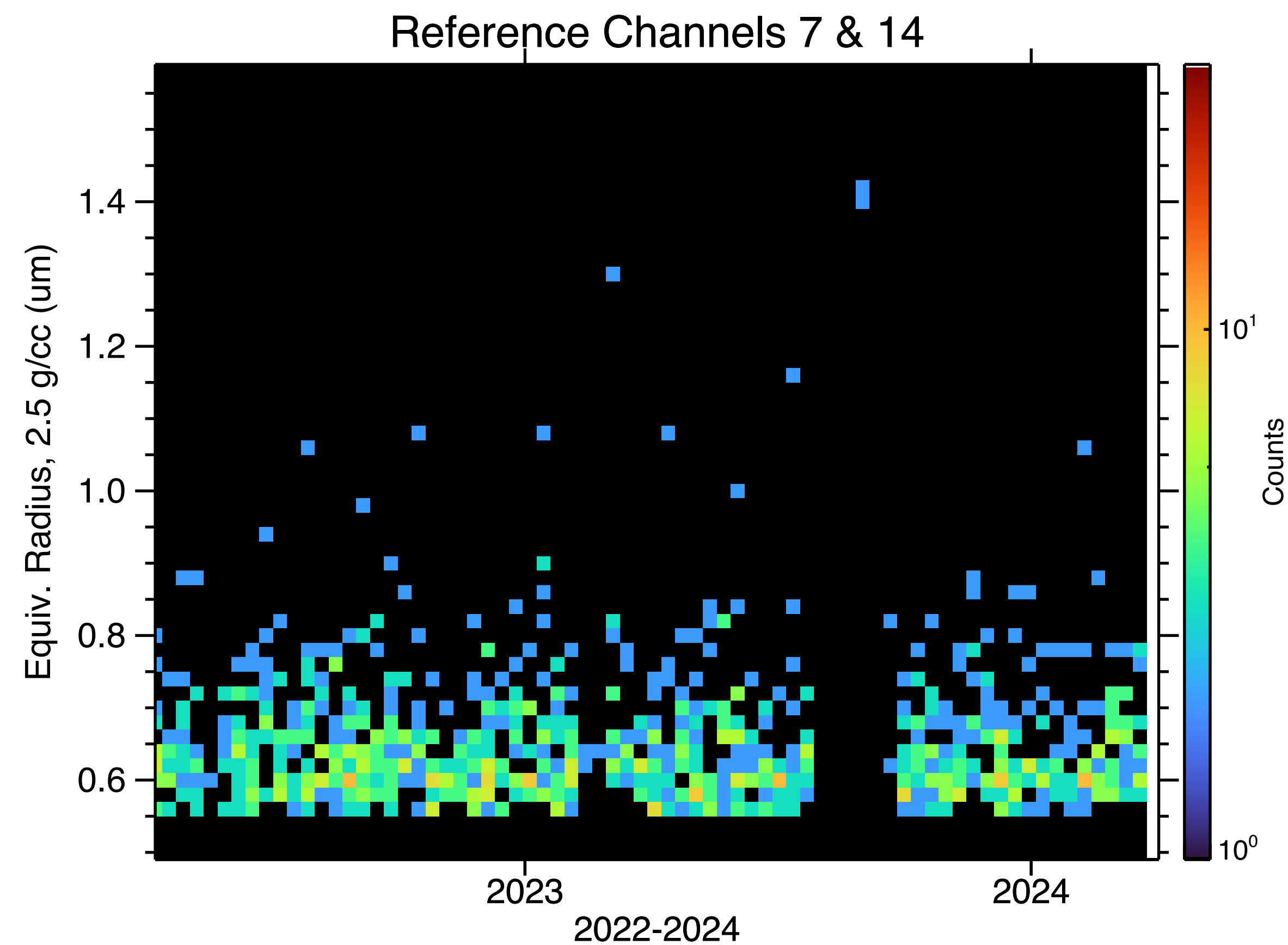
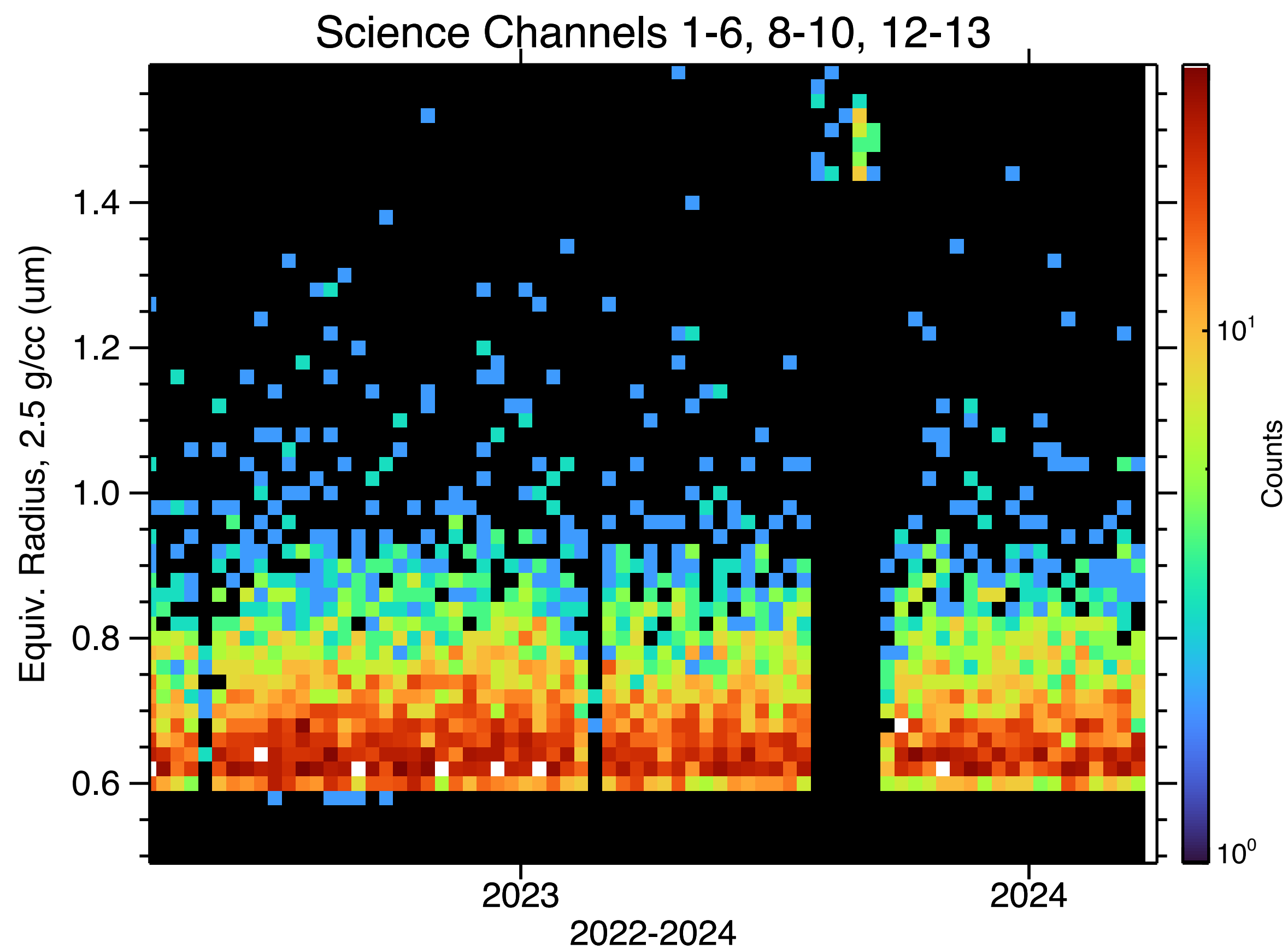
# Level 3 Data: Science vs. Reference Channels



Thruster firing events removed, coincident events are not removed



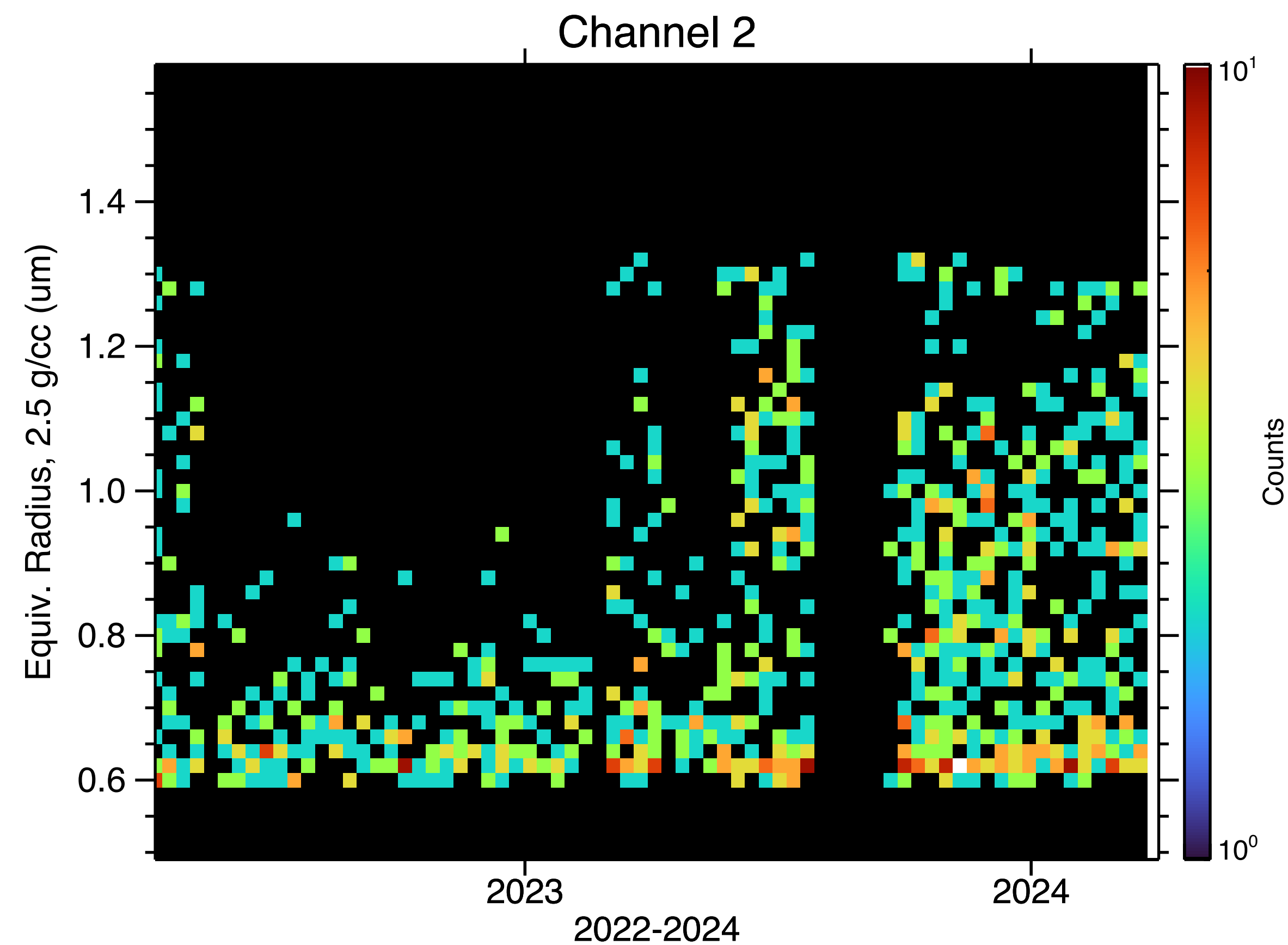
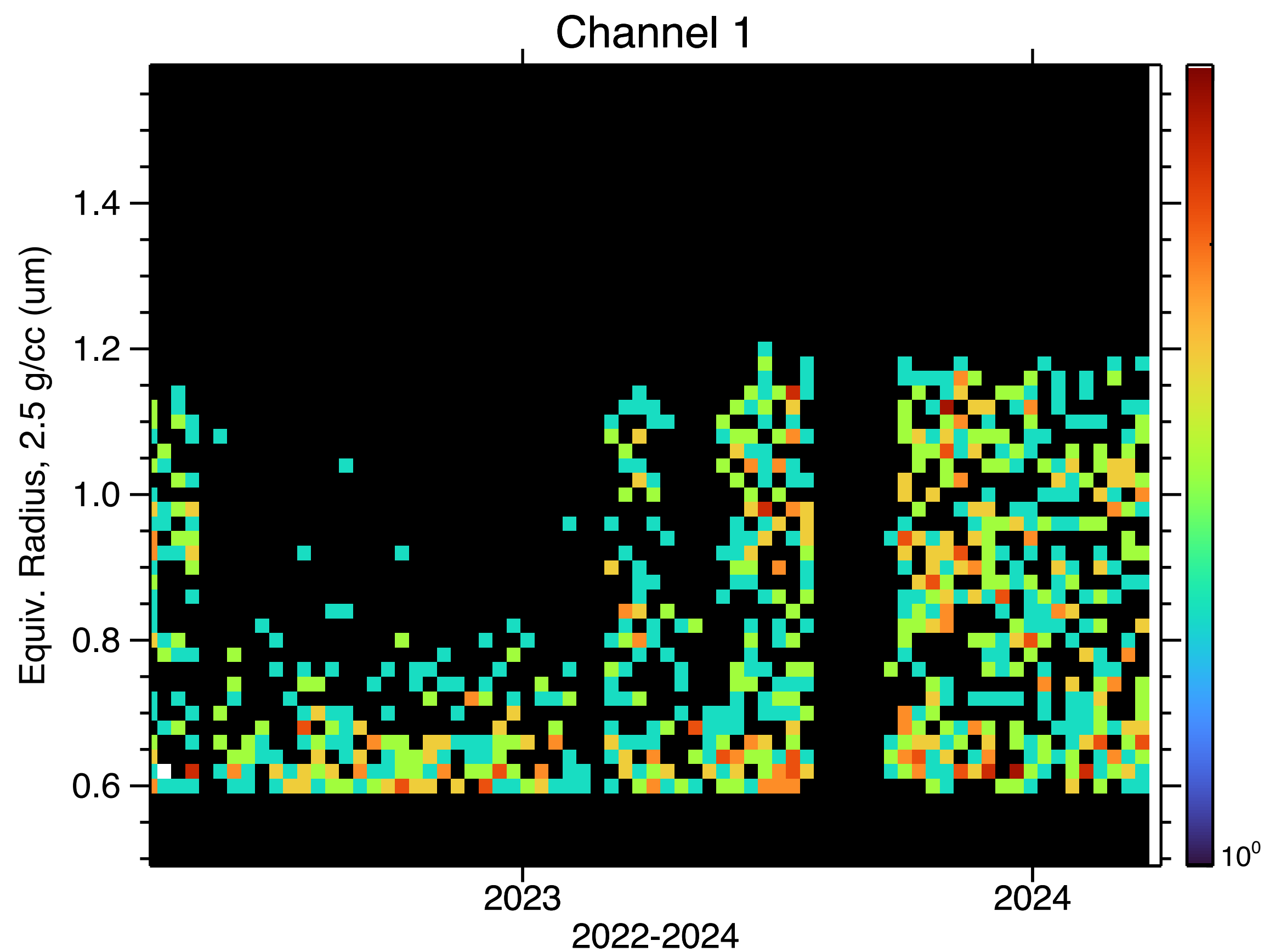
# Level 3 Data: Science vs. Reference Channels



Thruster firing and coincident events removed



# Level 3 Data: Individual Channels

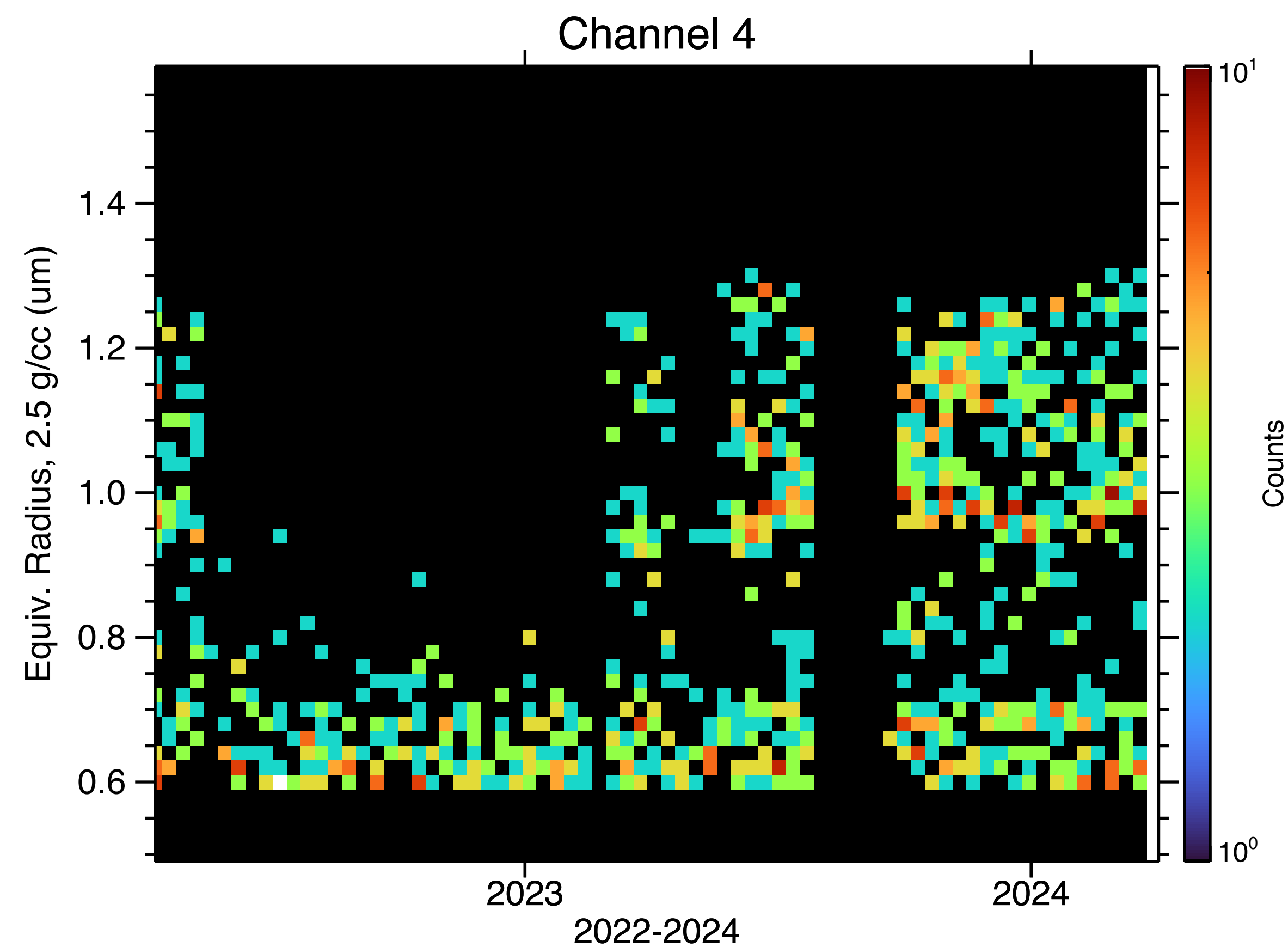
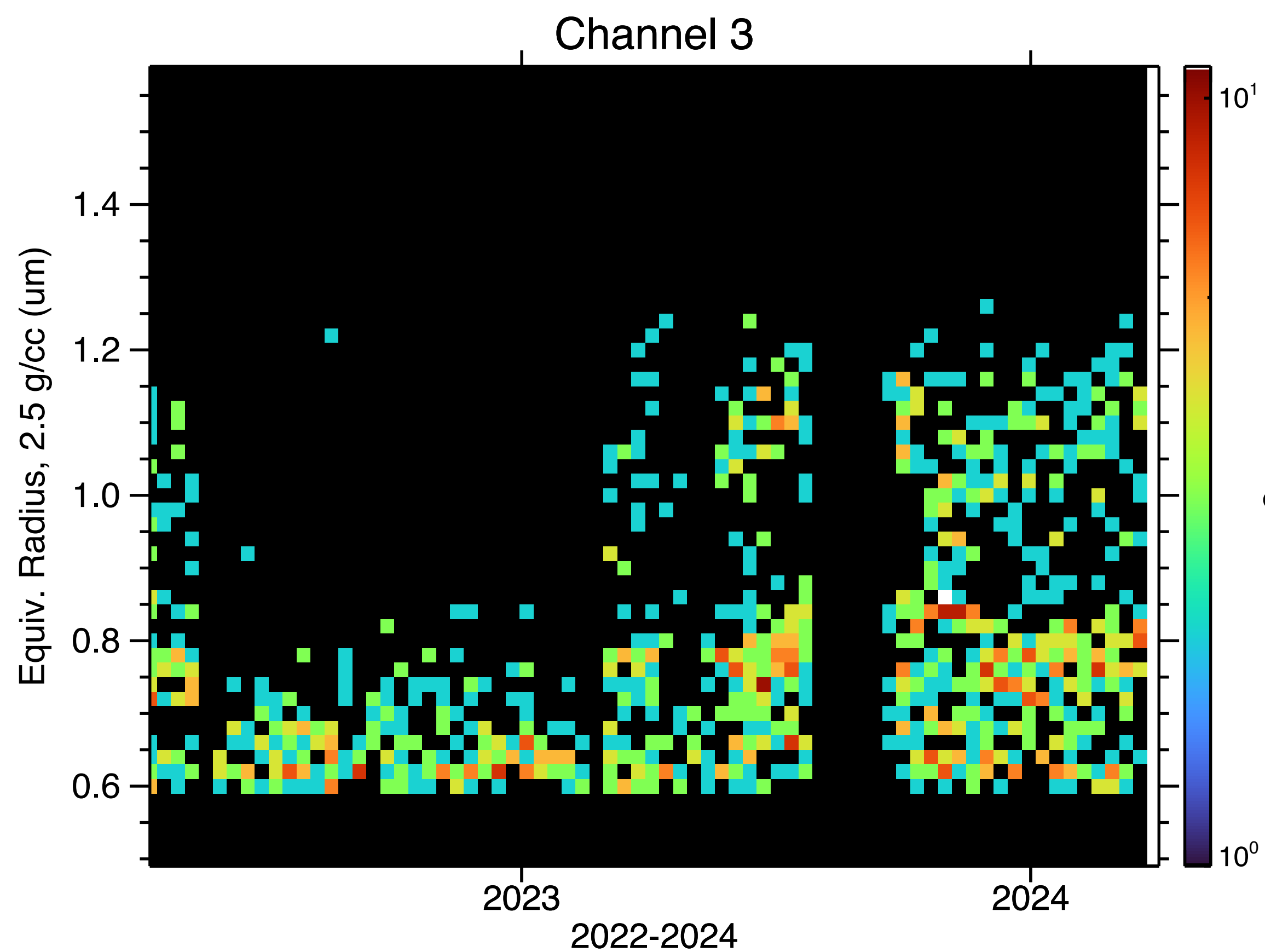


Thruster firing events removed, coincident events are not removed





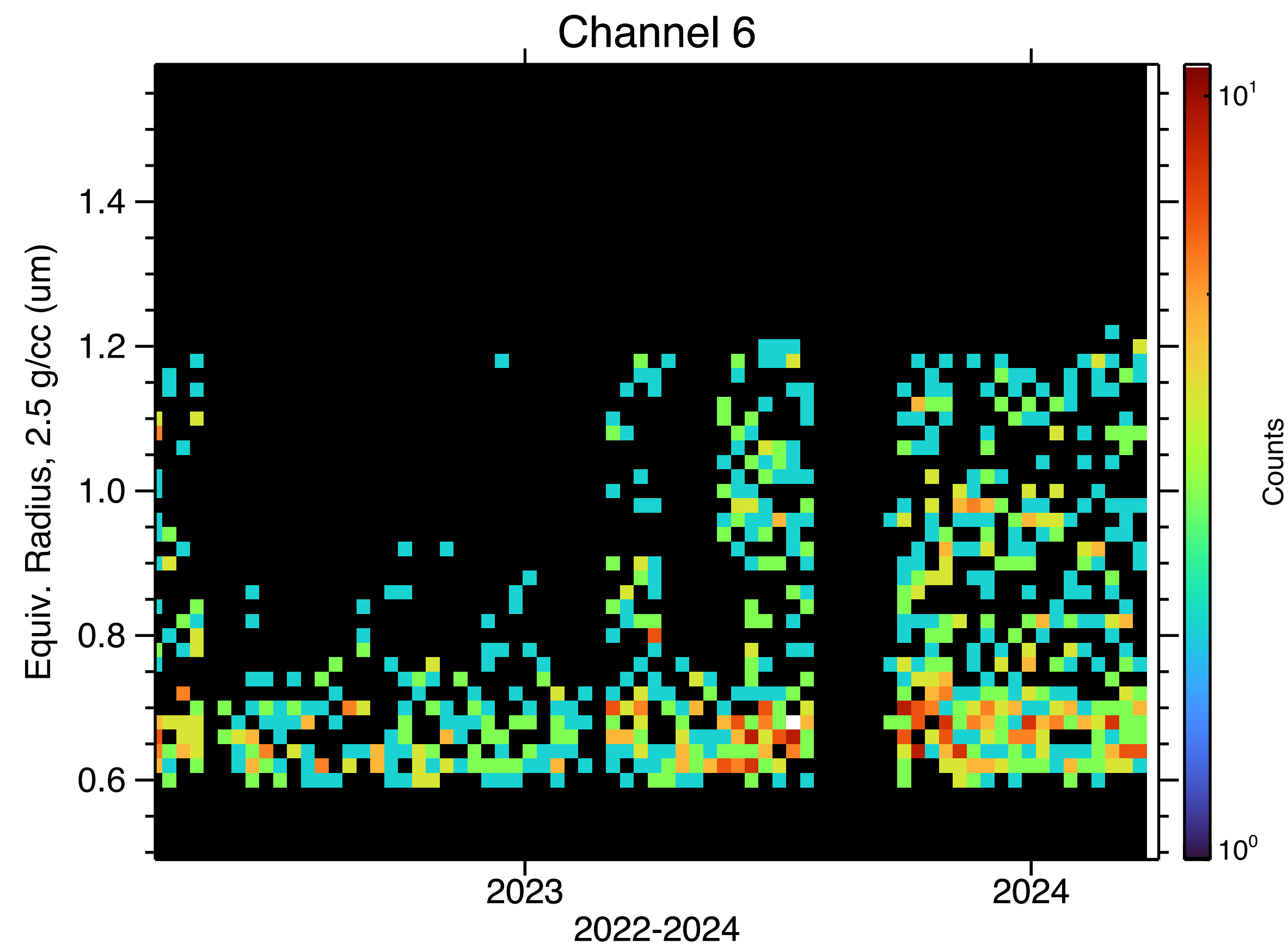
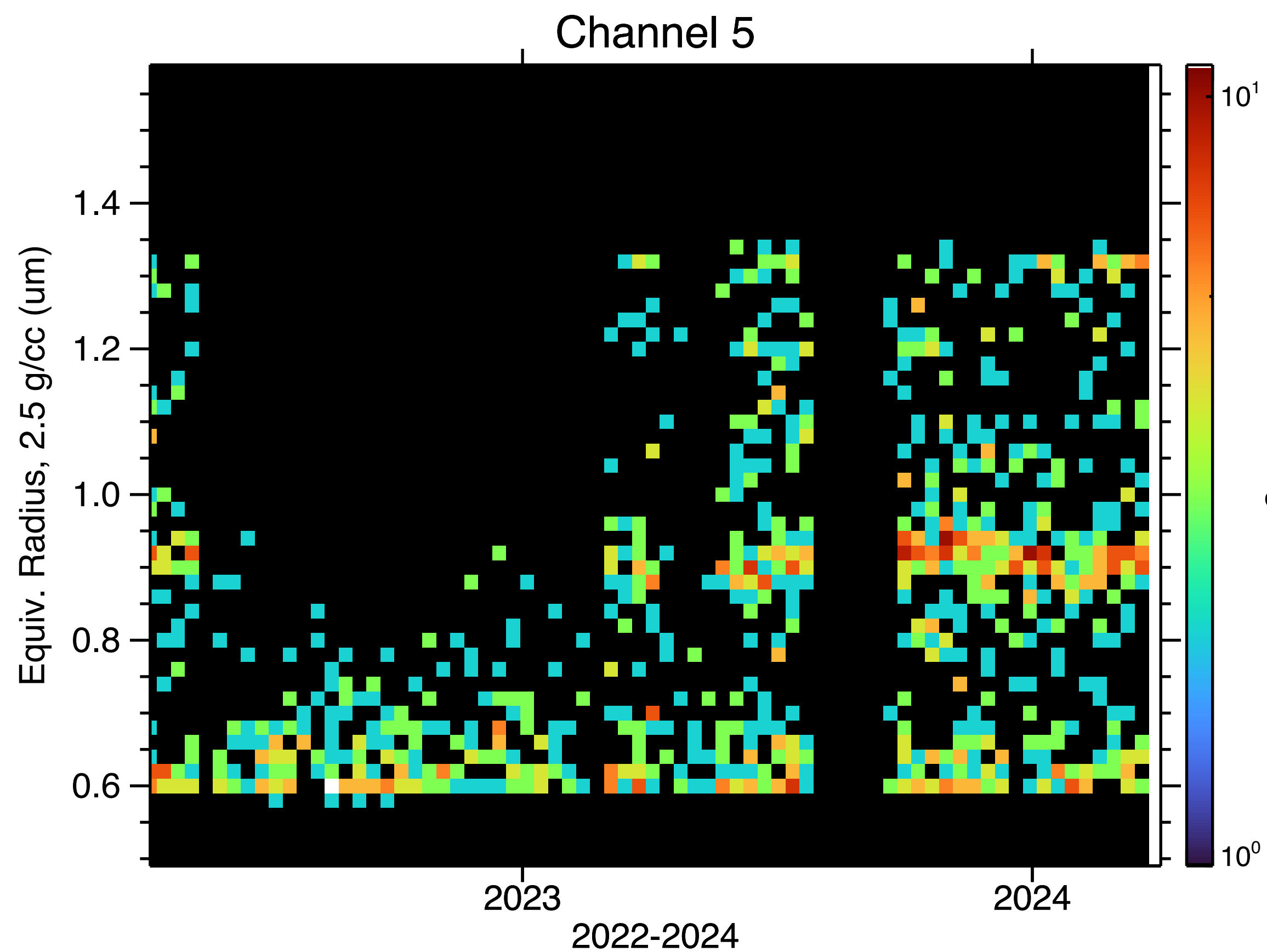
# Level 3 Data: Individual Channels



Thruster firing events removed, coincident events are not removed



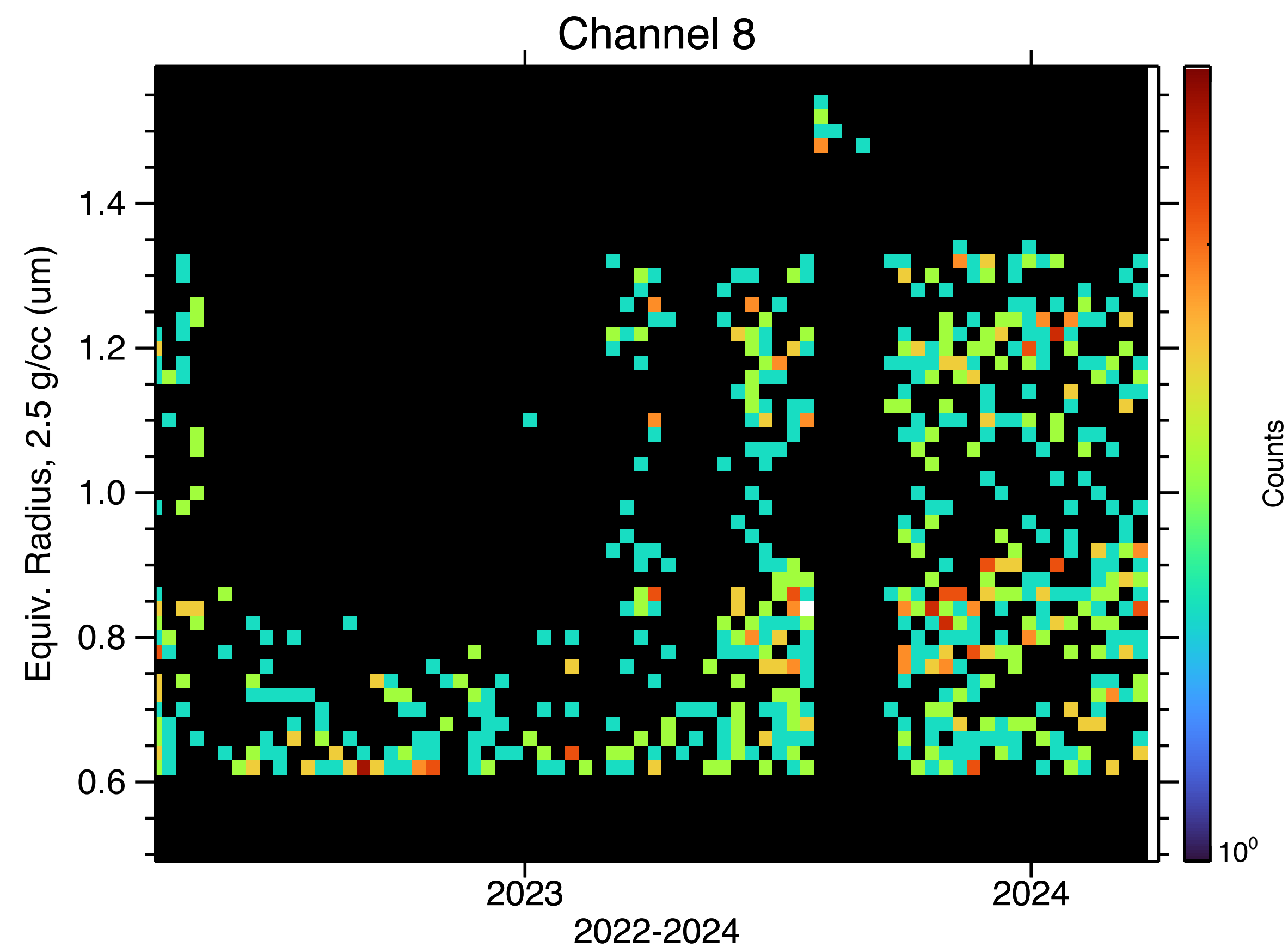
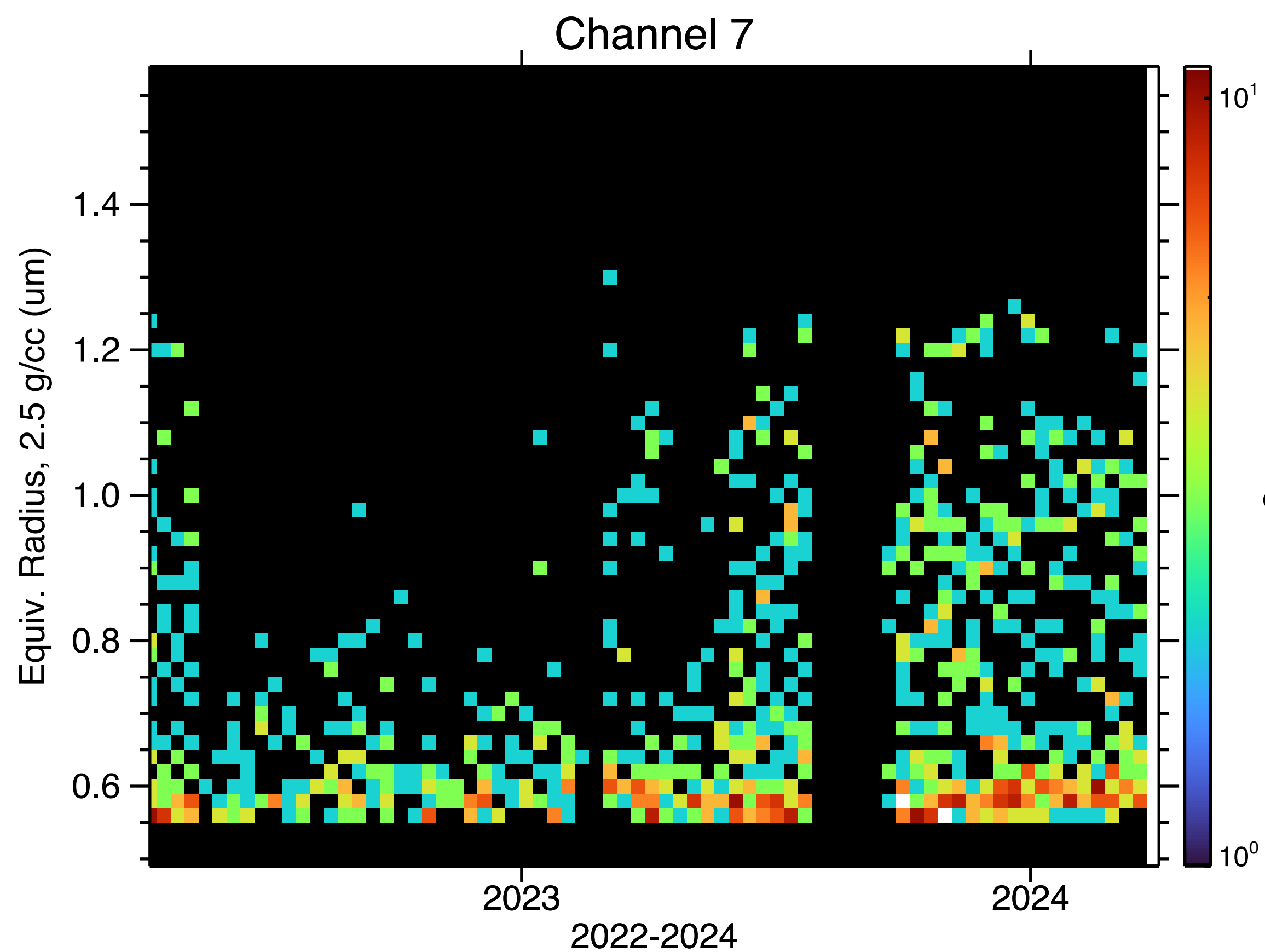
# Level 3 Data: Individual Channels



Thruster firing events removed, coincident events are not removed



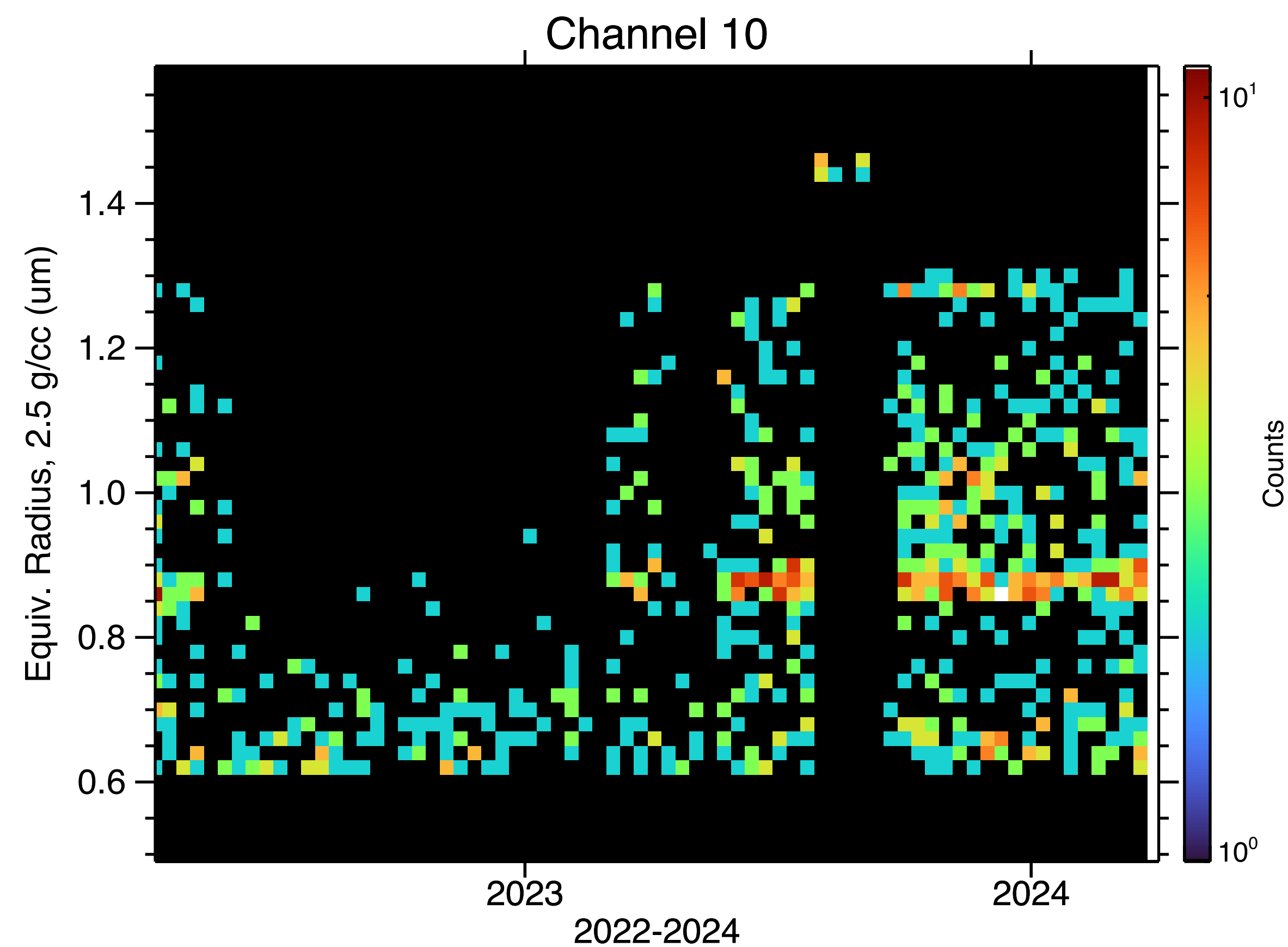
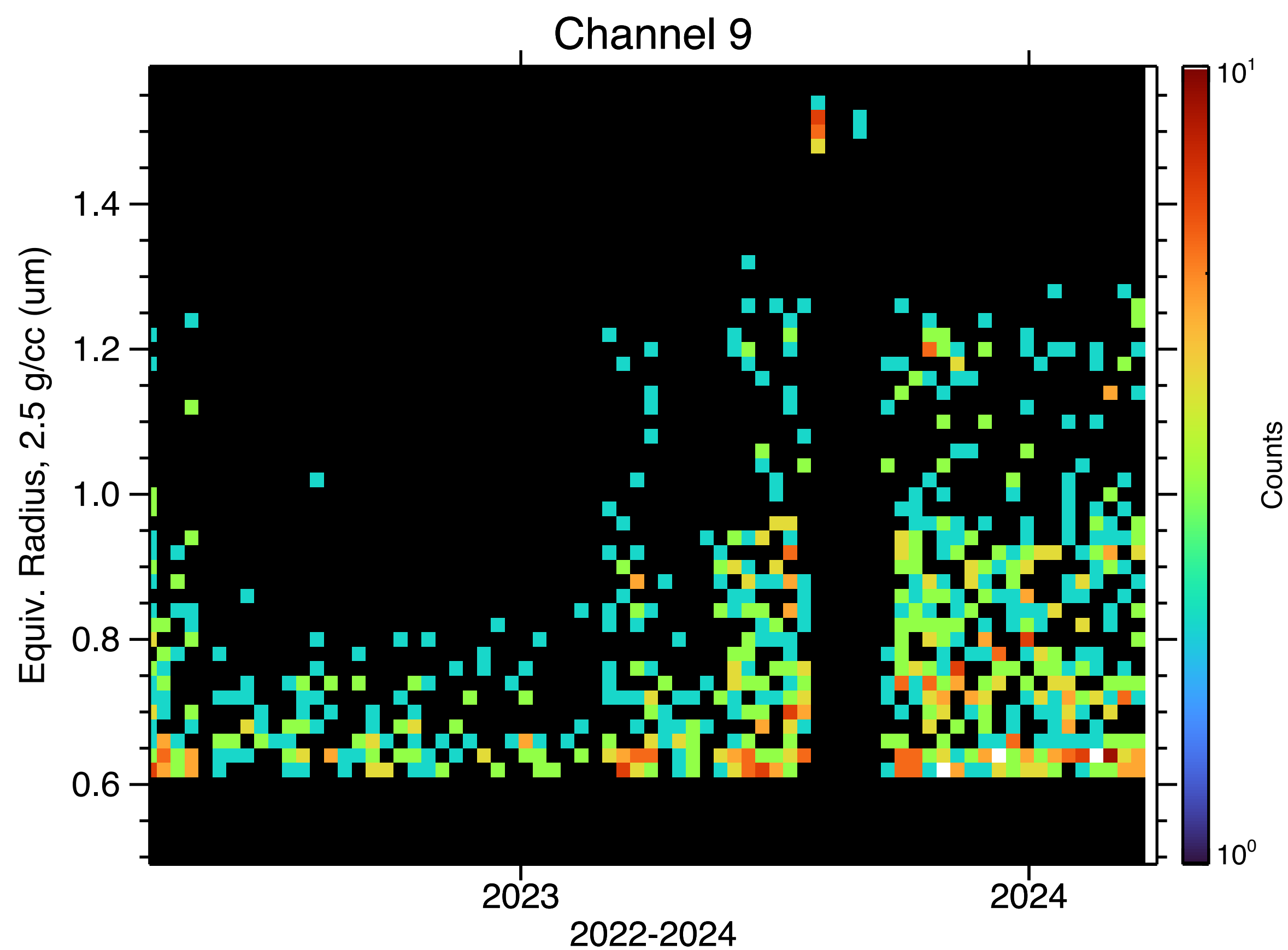
# Level 3 Data: Individual Channels



Thruster firing events removed, coincident events are not removed



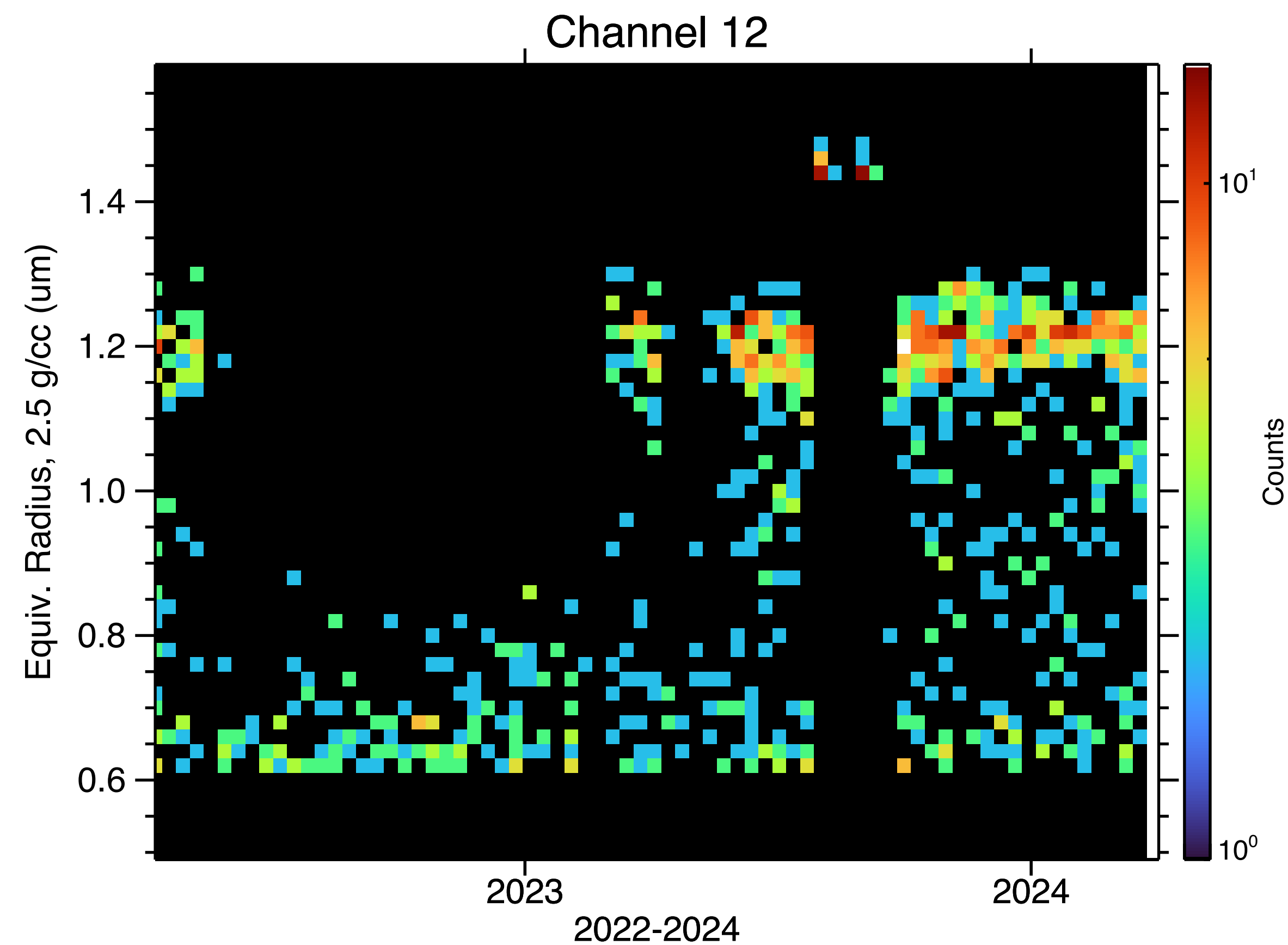
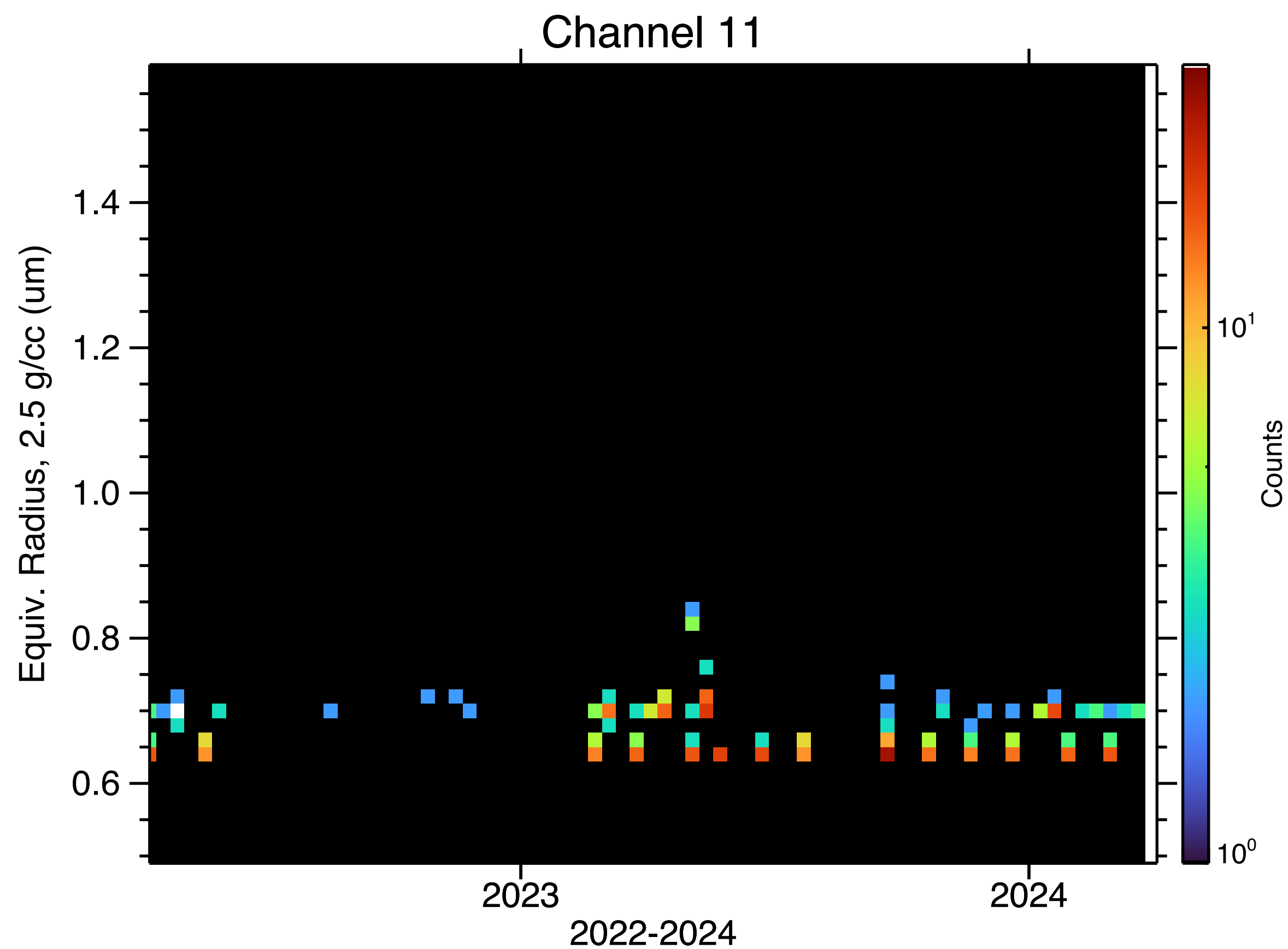
# Level 3 Data: Individual Channels



Thruster firing events removed, coincident events are not removed



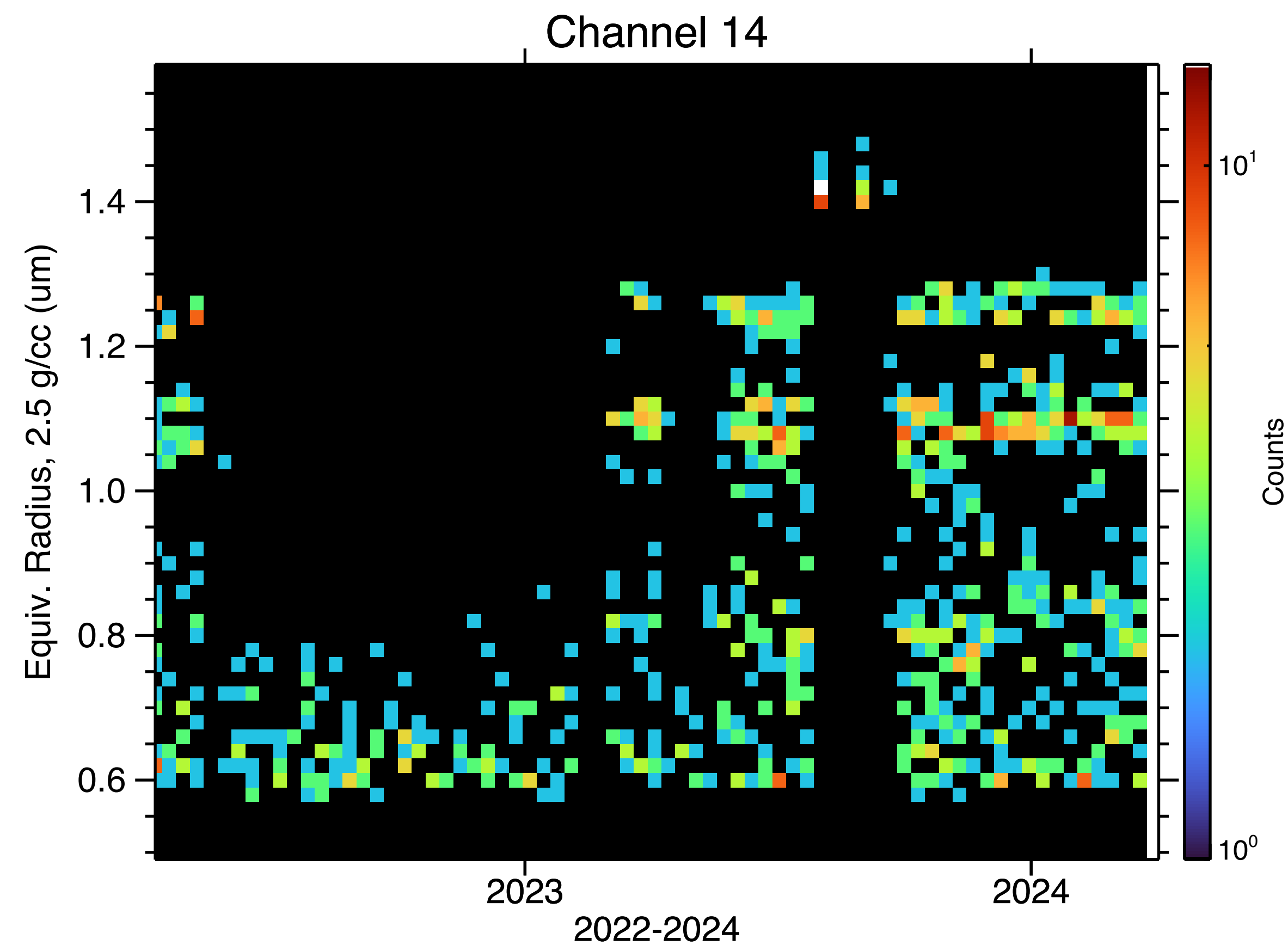
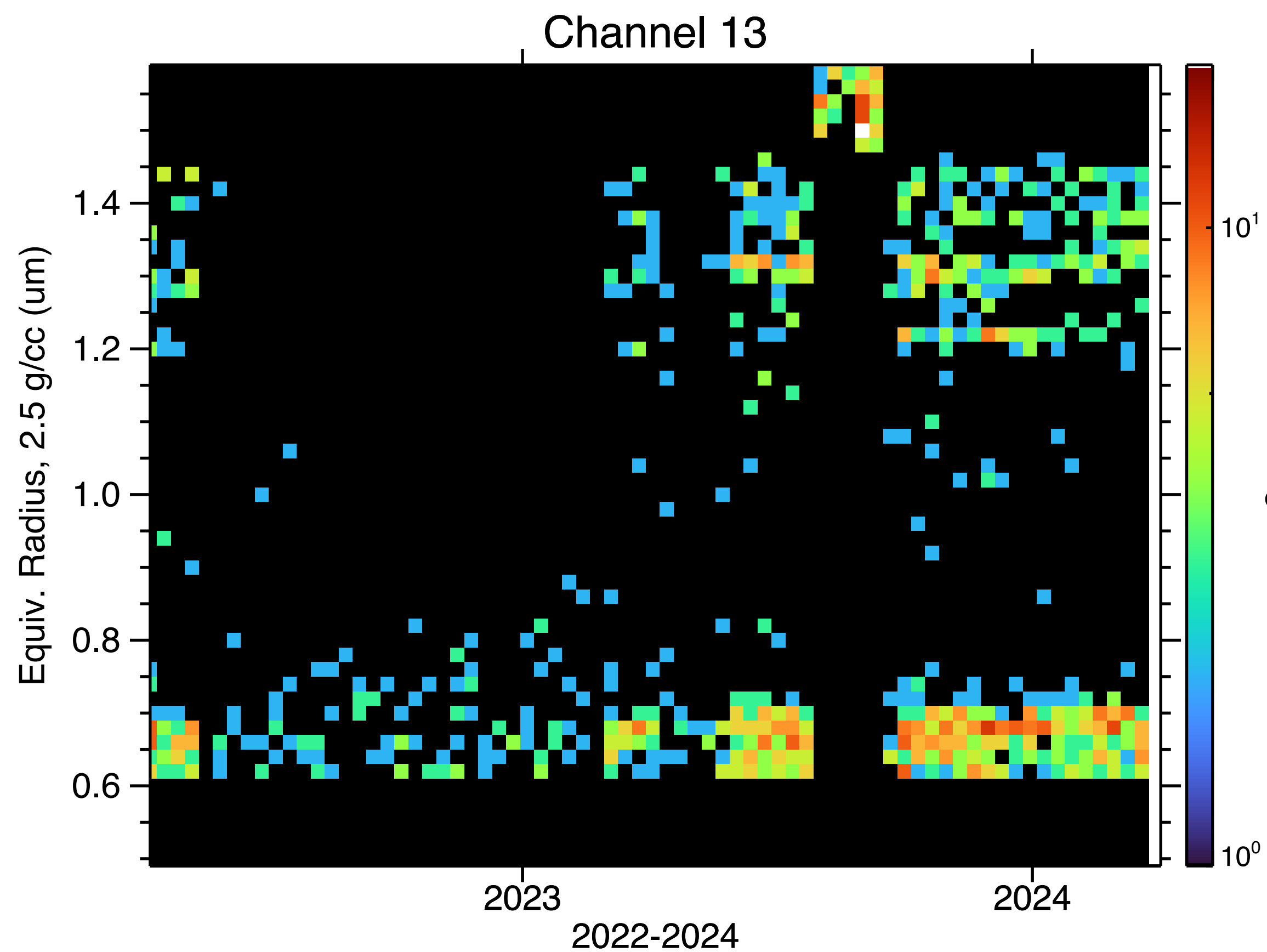
# Level 3 Data: Individual Channels



Thruster firing events removed, coincident events are not removed



# Level 3 Data: Individual Channels



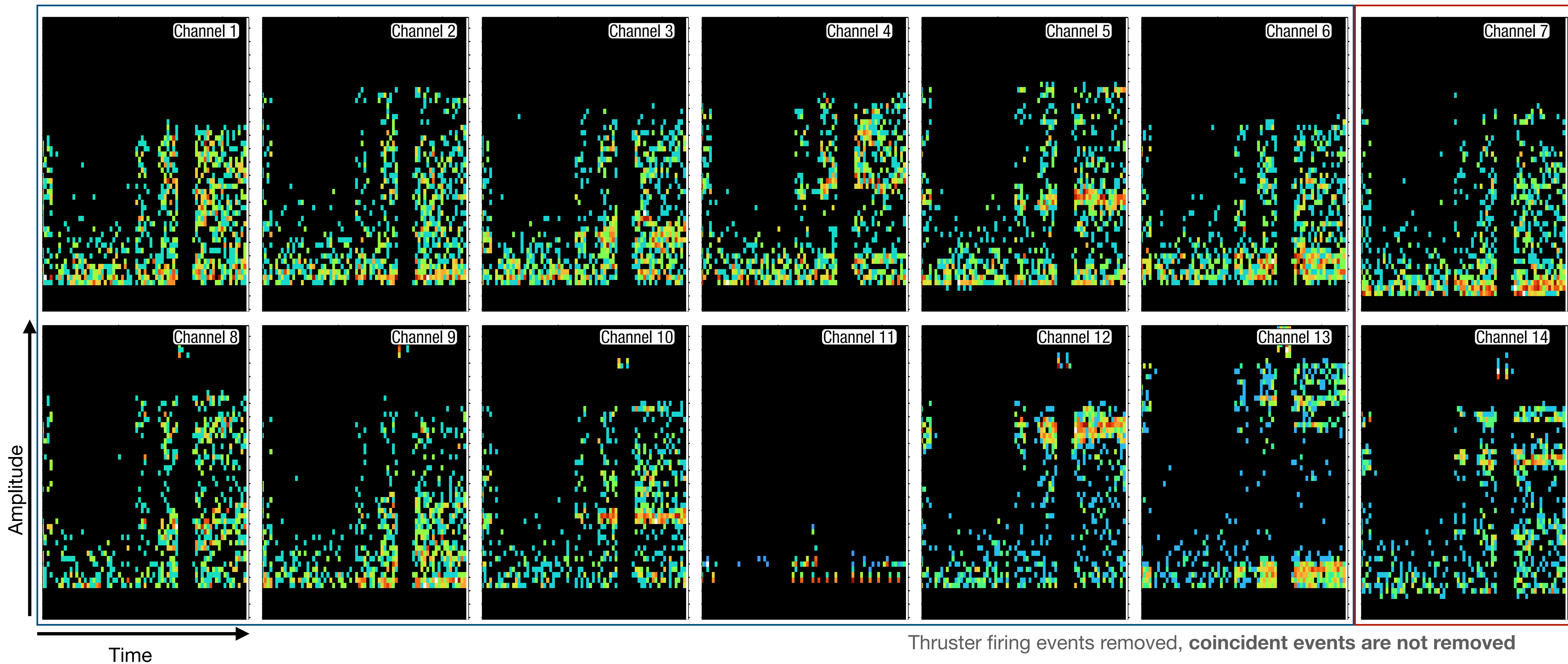
Thruster firing events removed, coincident events are not removed



# Level 3 Data: All Channels including Coincidence

Science

Reference

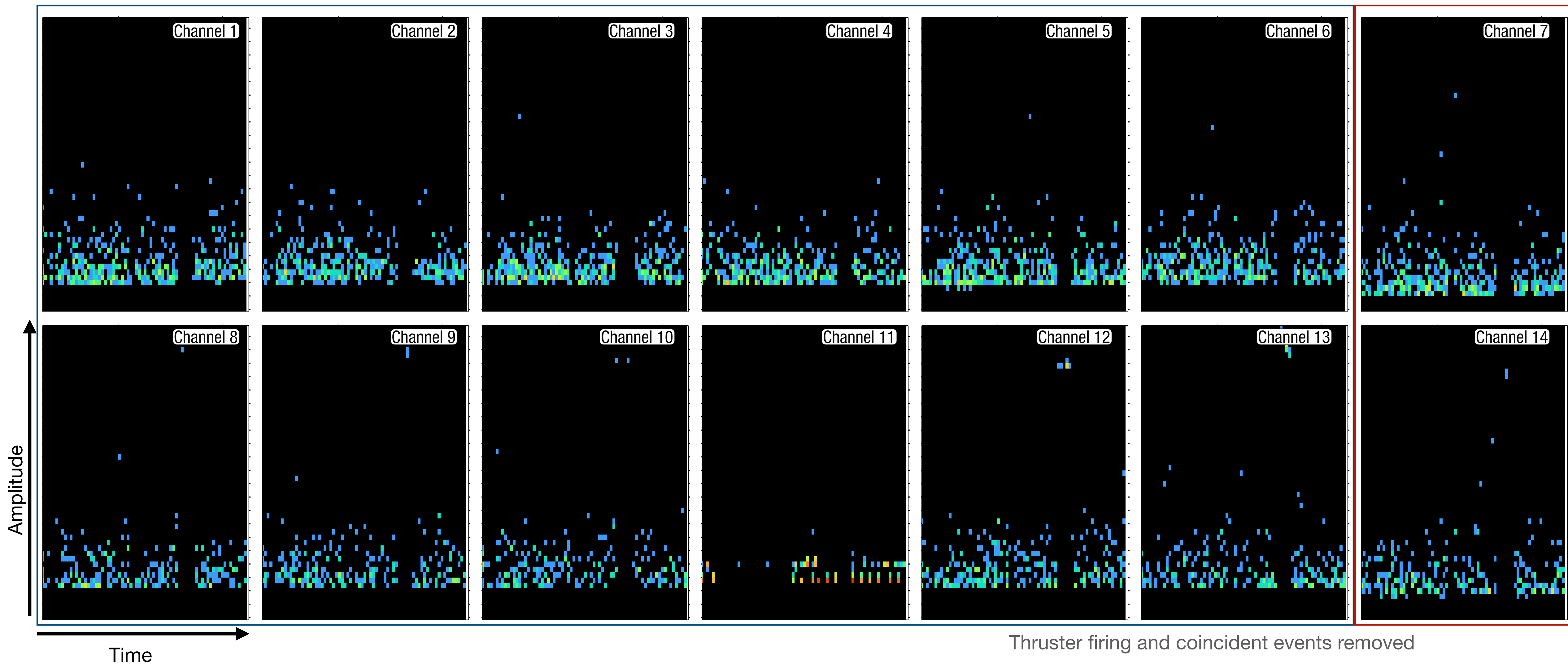




# Level 3 Data: All Channels

Science

Reference

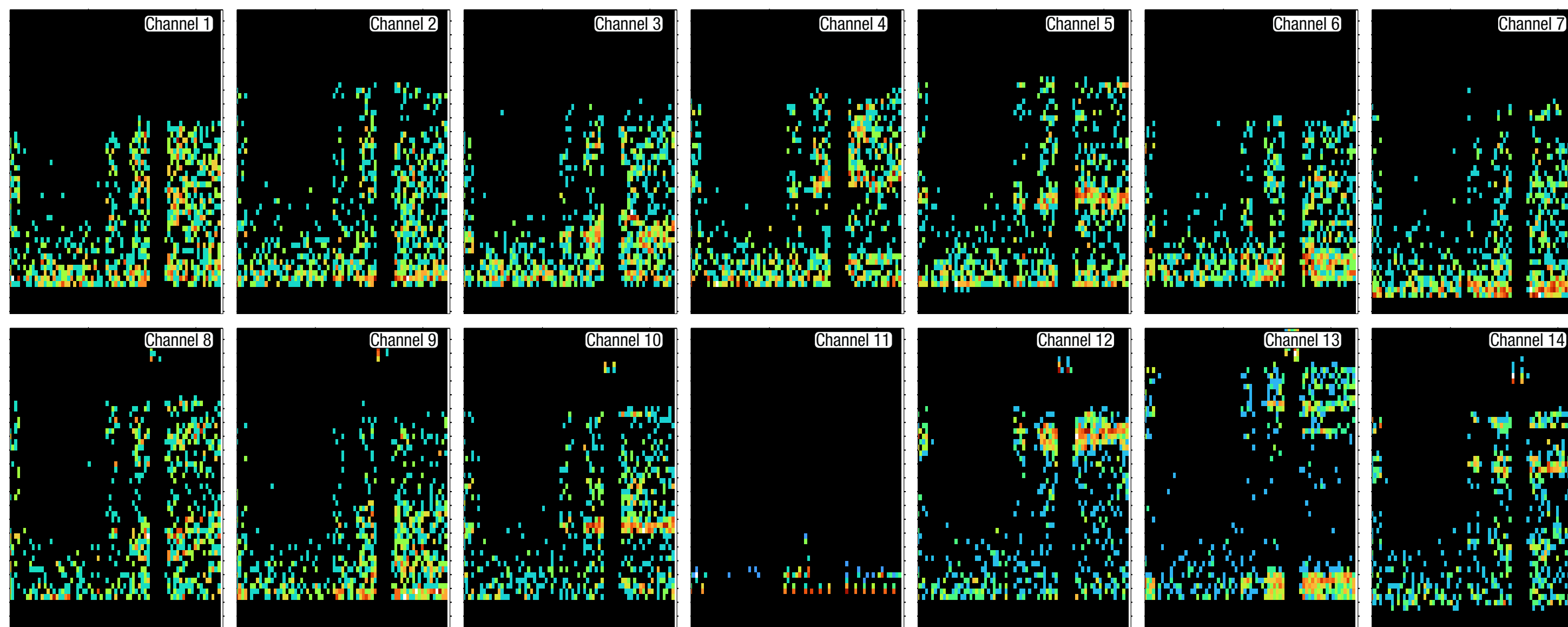




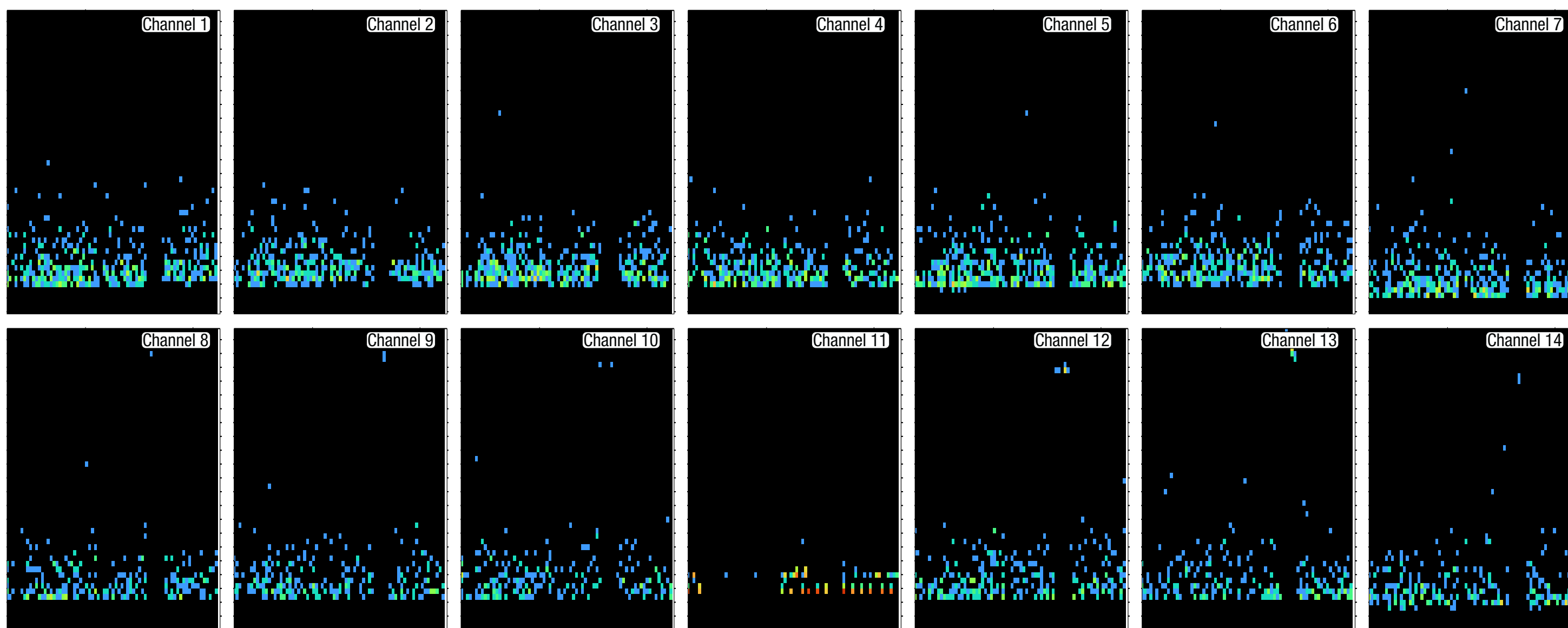


# Level 3 Data: All Channels comparison with/without coincidence

With coincident events included



Without coincidence



Thruster firing events removed



# Assessment of Level 3 Data

- Read CAL data: kem1\_cal, kem2\_cal
  - Covered 2022-099T20:36 to 2024-093T10:51
- On/off times located in //document/sdc\_on\_off\_times\_v0861.tab
  - Provides sufficient information to calculate fluxes
- Coincident events appear to be increasing after 2023, is this an instrumental trend?