

# protoDUNE channel update

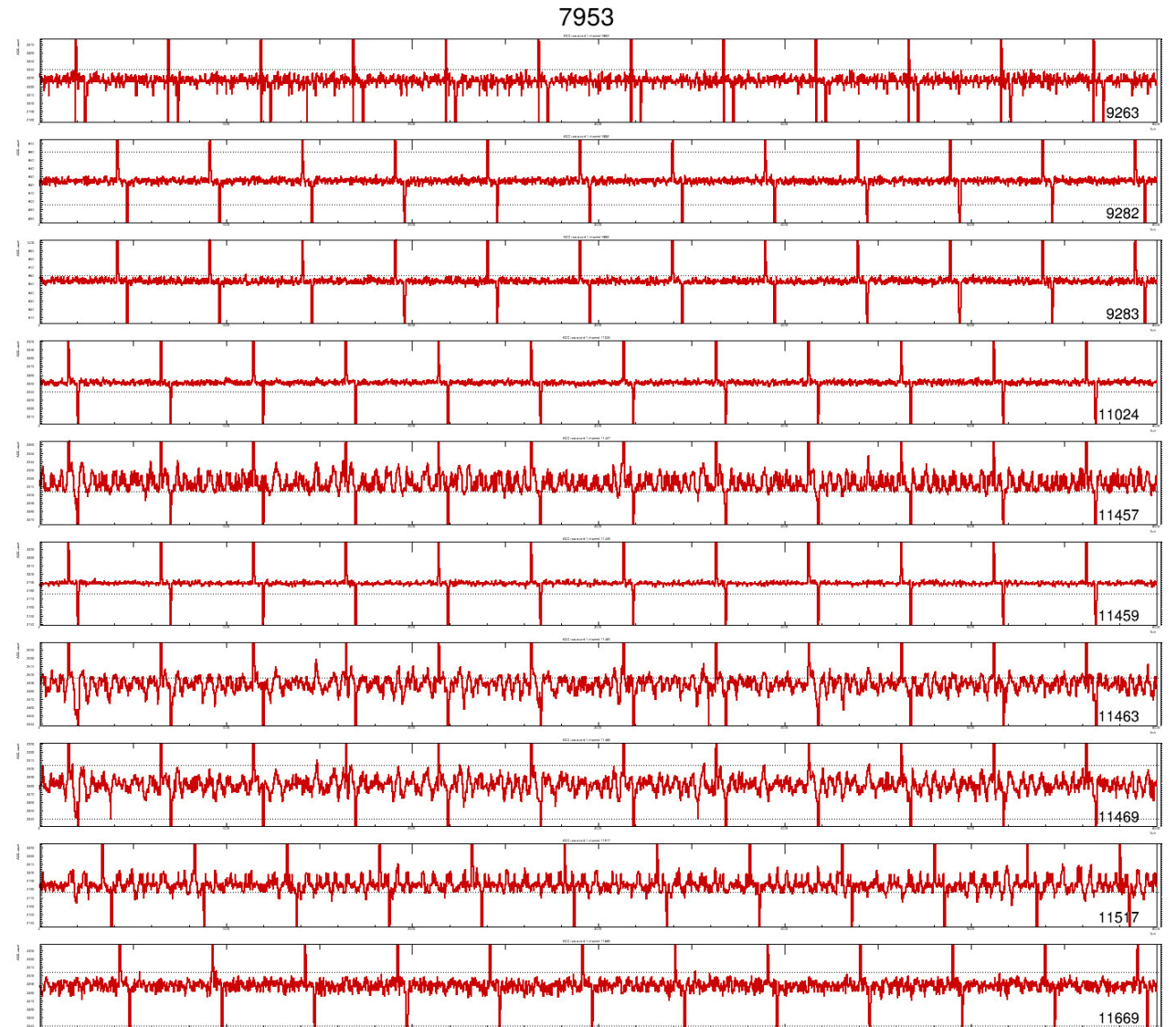
8/11/19

# Introduction

- Channels were analyzed for any that changed status during the protoDUNE run
- In beam and cosmic runs:
  - 5 channels with low RMS (open connection) were found to restore a normal level of RMS
  - 5 channels with normal level of RMS were found to fall to low RMS
- Pulsar runs have been analyzed from run 7953 and up

# Bad channels

APA	Channel	Beam Runs	Runs after beam	Channel list comments
6	9263	Sticky	Sticky	very sticky pedestal
	9282	Dead	Dead	Broken connection
	9283	Dead	Dead	Broken connection
1	11024	Dead	Dead	Broken connection
	11457	Dead	OK from 6118	Broken connection
	11459	Dead	Dead	Broken connection
	11463	Dead	OK from 8366	Broken connection
	11469	Dead until 5141 OK after	OK	Broken connection
	11517	Dead until 5141 OK after	OK	Broken connection
	11669	Dead	OK from 6118	Broken connection

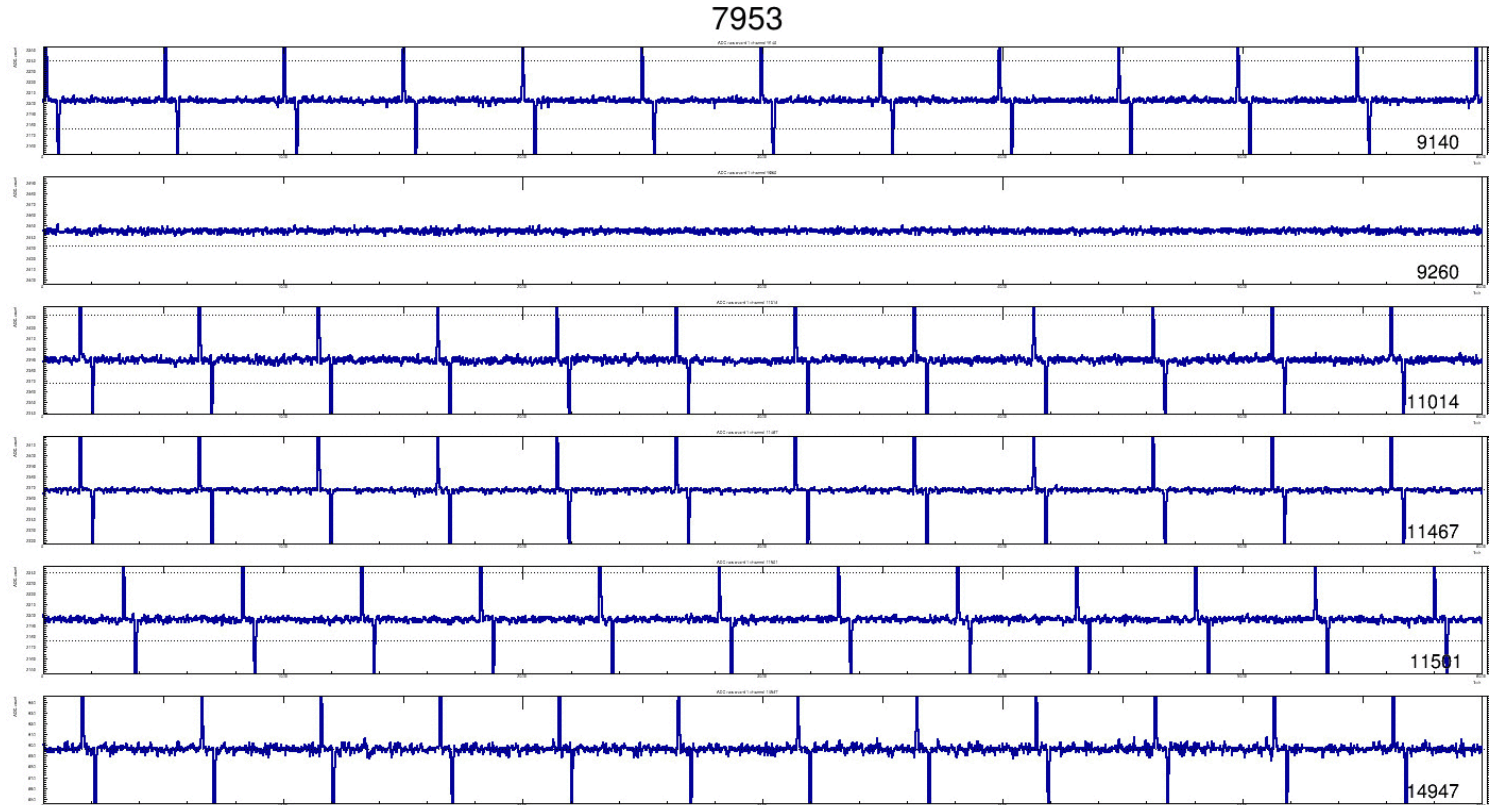


All channels respond to FE pulser in runs analyzed from 7953 and up

1. Need to analyze pulser runs during beam
2. Still don't know conditions under which these channels changed status

# Good channels

APA	Channel	Beam runs	Runs after beam
6	9140	OK	Dead at 8366 OK at 8401
	9260	OK	Dead from 6118
1	11014	OK	Dead from 8366
	11467	OK	Dead from 8366
	11501	OK	Dead from 8366
4	14947	Dead	Dead



One channel failed to respond to FE pulser in runs analyzed from 7953 and up

1. Need to analyze pulser runs around 6118 to understand when this channel became unresponsive
2. Still don't know conditions under which these channels changed status

# Summary

- 9 channels have changed status in front of the FE inputs
- 1 channel appears to have become unresponsive in the electronics
- More study is needed to understand what if anything caused these changes