larwirecell - Bug #23820

WireCell::Waveform::percentile throws an exception when only a subset of ProtoDUNE-SP channels report data

01/02/2020 10:31 AM - Thomas Junk

Status:	New	**Start date:**	01/02/2020
Priority:	Normal	**Due date:**	
Assignee:		**% Done:**	0%
Category:		**Estimated time:**	0.00 hour
Target version:		**Spent time:**	0.00 hour

Description

I have a feature of the raw decoder for ProtoDUNE-SP that will only decode a subset of the input channels. In the standard reco chain, we call the WireCell toolkit to do 2D deconvolution. I figured I'd try it with the first 200 channels in a ProtoDUNE-SP event, which are all U-plane wires in APA 3. Inside OminibusSigProc, median is called which calls percentile which looks up wave.at(wave.size()*percentage) in my case with percentage=0.5. This throws an out-of-range exception. Would be good to bulletproof this a bit better so it doesn't crash the program. I surmise 2D deconvolution doesn't work with only a subset of channels, but I thought I'd given it enough. Does it need all channels in a FEMB to work? We are slowly marking channels bad.