

IceCube Fast-Response Analysis Report

For Internal Use Only

Source Name:

Fast Response Example

Observation Date(s):

2018-01-01 – 2018-01-02

Report Generated On:

2020-08-18

1 Inputs

1.1 Source Information

Source Name	Fast Response Example
Trigger Time	2018-01-02 00:00:00.000 (MJD=58120.000000)
Start Time	2018-01-01 12:00:00.000 (Trigger-43200.0s)
Stop Time	2018-01-02 12:00:00.000 (Trigger+43200.0s)
Time Window	86400.0s

1.2 On-Time Data

Access Method	database
Stream	neutrino17
Query Time	2020-08-18 18:24:33
Start Time	2018-01-01 00:40:35
Stop Time	2018-01-03 01:59:27

1.3 Skylab Analysis Information

Skylab Version	2.7.2
IceTray Path	['/data/condor_builds/users/efried/icerec/build_realtime/lib/icecube/icetray']
Created by	i3home/efried
Dataset Used	gfu online/version-001-p01/
Dataset details	Real-time Gamma-Ray Follow-Up (GFU) Sample with leap second bug fix and official neutrino sources format.

2 Detector Operations

2.1 Run Times

Run	Start Time	Stop Time	Duration	Livetime
130484	2018-01-01 00:40:35	2018-01-01 05:44:15	5:03:40	0.0s
130485	2018-01-01 05:45:45	2020-08-18 20:24:33	23054:38:48	86400.0s
130486	2018-01-01 05:48:54	2020-08-18 20:24:33	23054:35:39	86400.0s
130487	2018-01-01 05:51:29	2018-01-01 09:56:54	4:05:24	0.0s
130488	2018-01-01 09:58:06	2018-01-01 17:57:07	7:59:01	21427.0s
130489	2018-01-01 17:57:07	2018-01-02 01:57:40	8:00:33	28833.0s
130490	2018-01-02 01:57:40	2018-01-02 09:58:00	8:00:20	28820.0s
130491	2018-01-02 09:58:00	2018-01-02 17:58:22	8:00:22	7320.0s
130492	2018-01-02 17:59:53	2018-01-03 01:59:27	7:59:33	0.0s

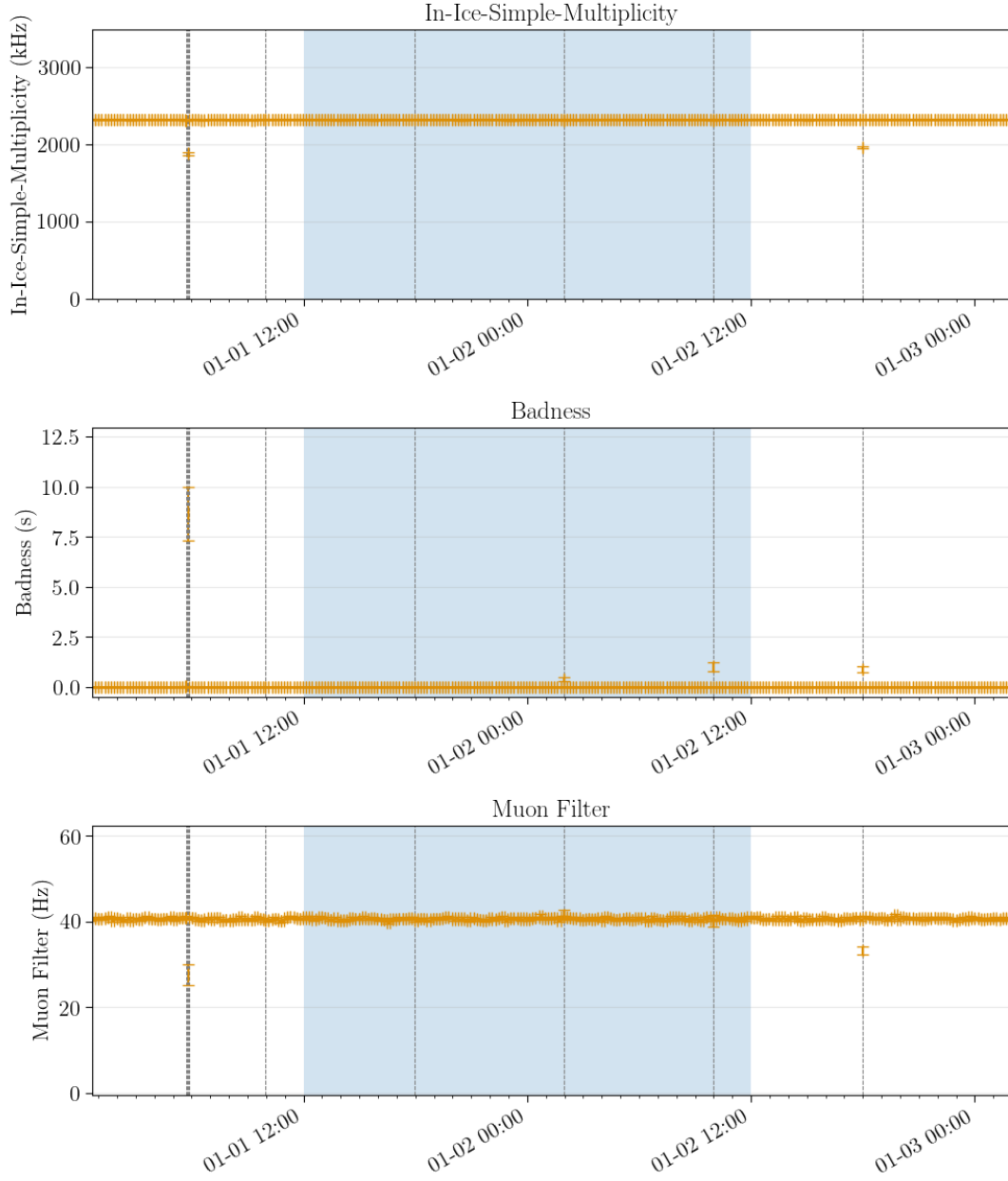
Total Livetime = 259,200.0 s

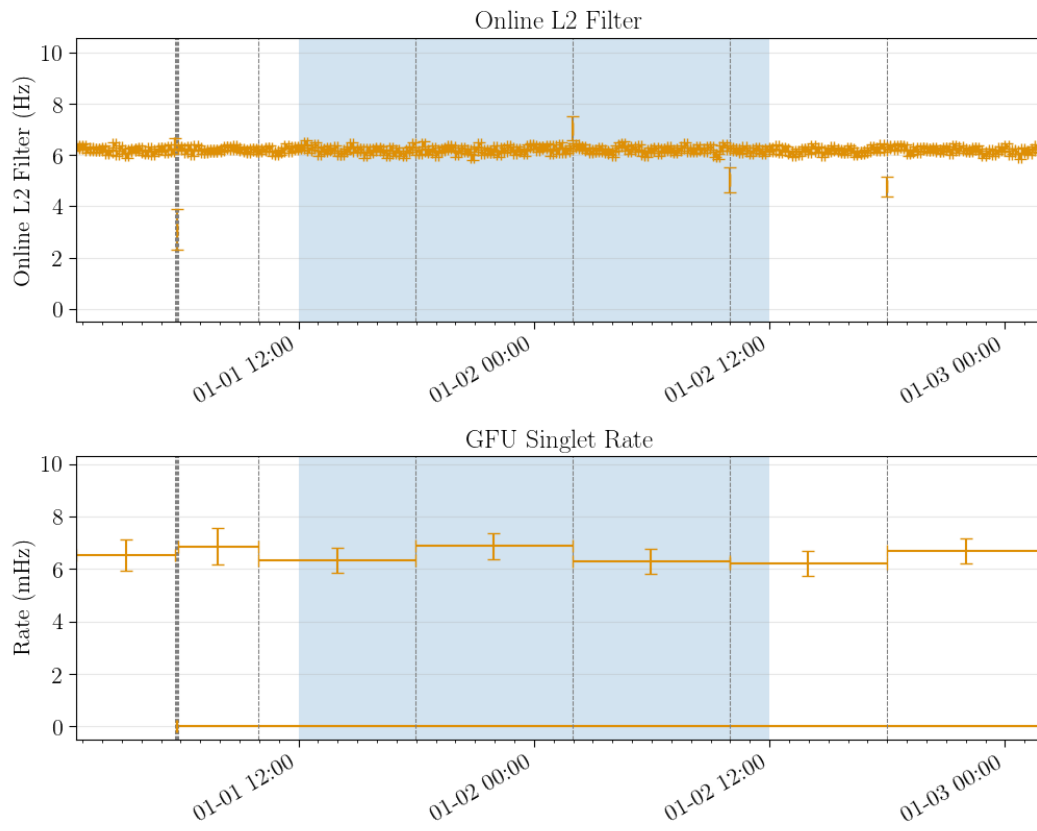
2.2 Run Status

Run	Status	Light	Filter Mode	Run Mode	OK	GFU
130484	FAIL	dark	PhysicsFiltering	PhysicsTrig	NotOK	119
130485	FAIL	dark	PhysicsFiltering	PhysicsTrig	NotOK	0
130486	FAIL	dark	PhysicsFiltering	PhysicsTrig	NotOK	0
130487	FAIL	dark	PhysicsFiltering	PhysicsTrig	NotOK	101
130488	SUCCESS	dark	PhysicsFiltering	PhysicsTrig	OK	182
130489	SUCCESS	dark	PhysicsFiltering	PhysicsTrig	OK	198
130490	SUCCESS	dark	PhysicsFiltering	PhysicsTrig	OK	181
130491	SUCCESS	dark	PhysicsFiltering	PhysicsTrig	OK	179
130492	SUCCESS	dark	PhysicsFiltering	PhysicsTrig	OK	192

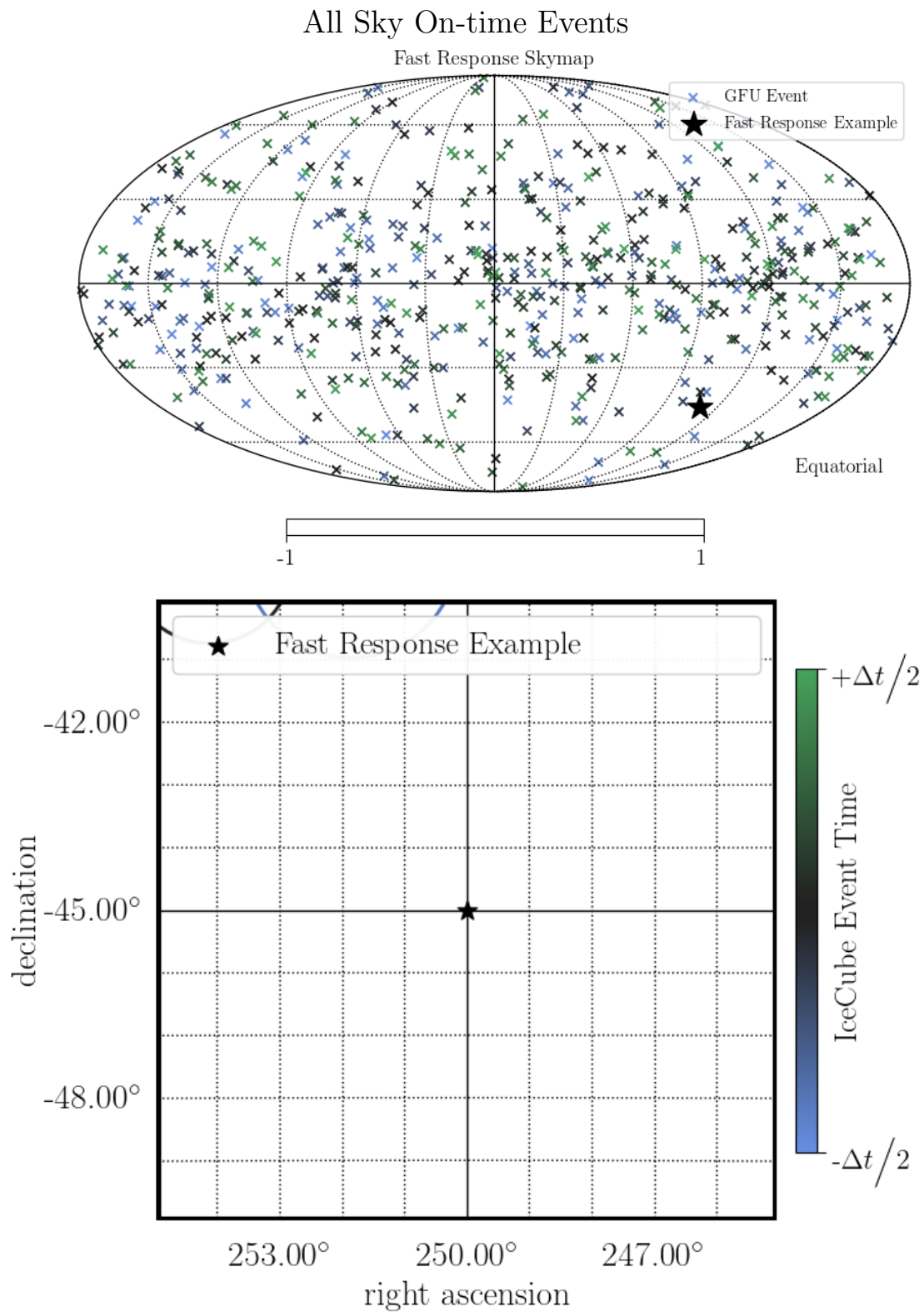
2.3 Event Rates

Plots for key trigger and filter rates for the data period and the neighboring runs. Blue indicates selected time window. Badness > 10 s may indicate a problem.





3 Results



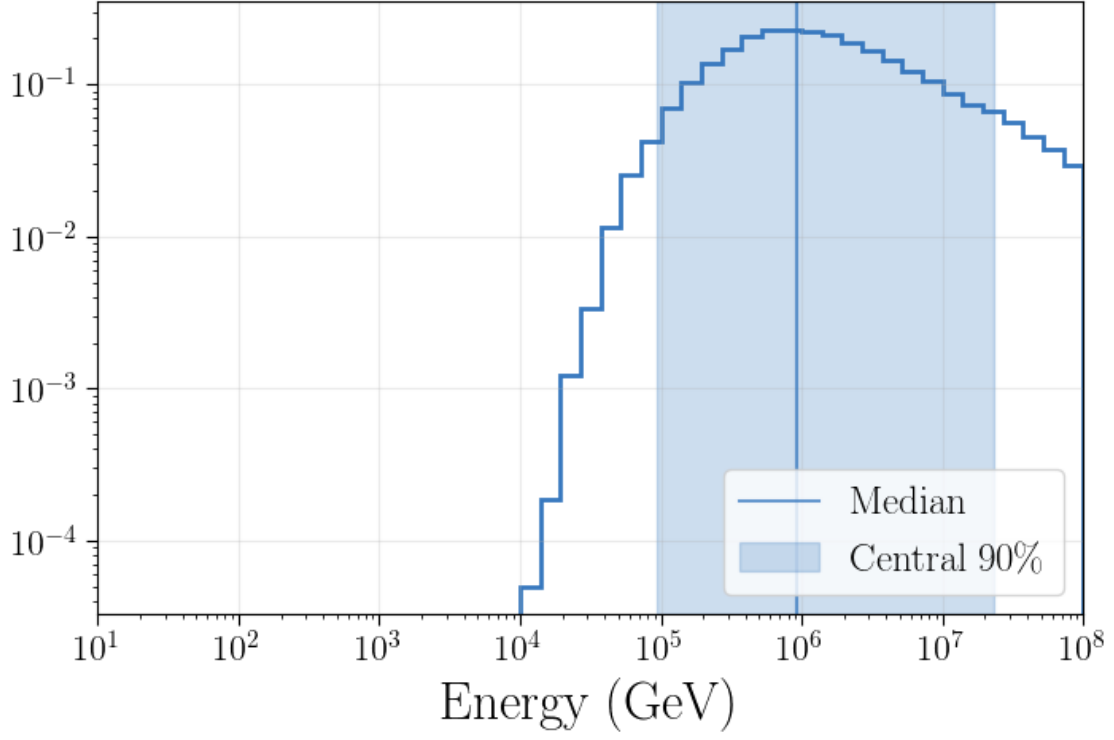
3.1 Coincident Events

For point sources, any events from the relevant time window with a spatial times energy weight greater than 10 is included in this table. For skymaps, any event reconstructed within the 90% contour is included (for longer timescale cascades we skip this because of the large localization). [None]

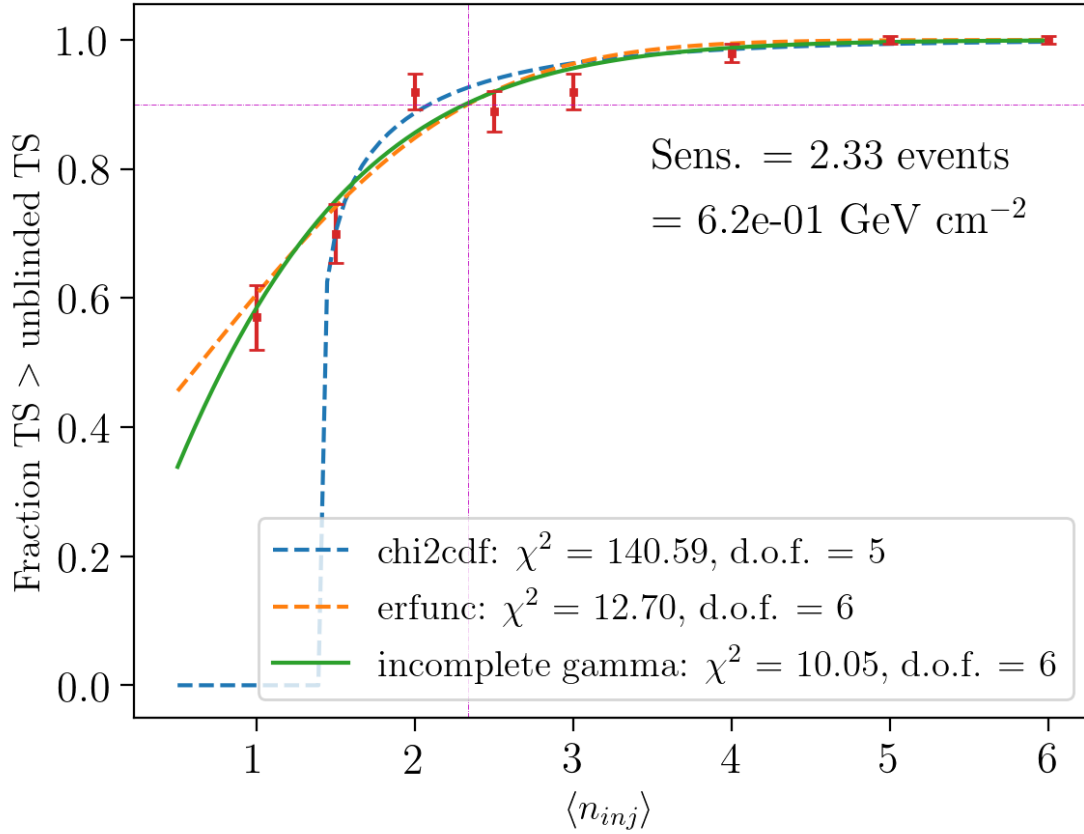
3.2 Likelihood Analysis

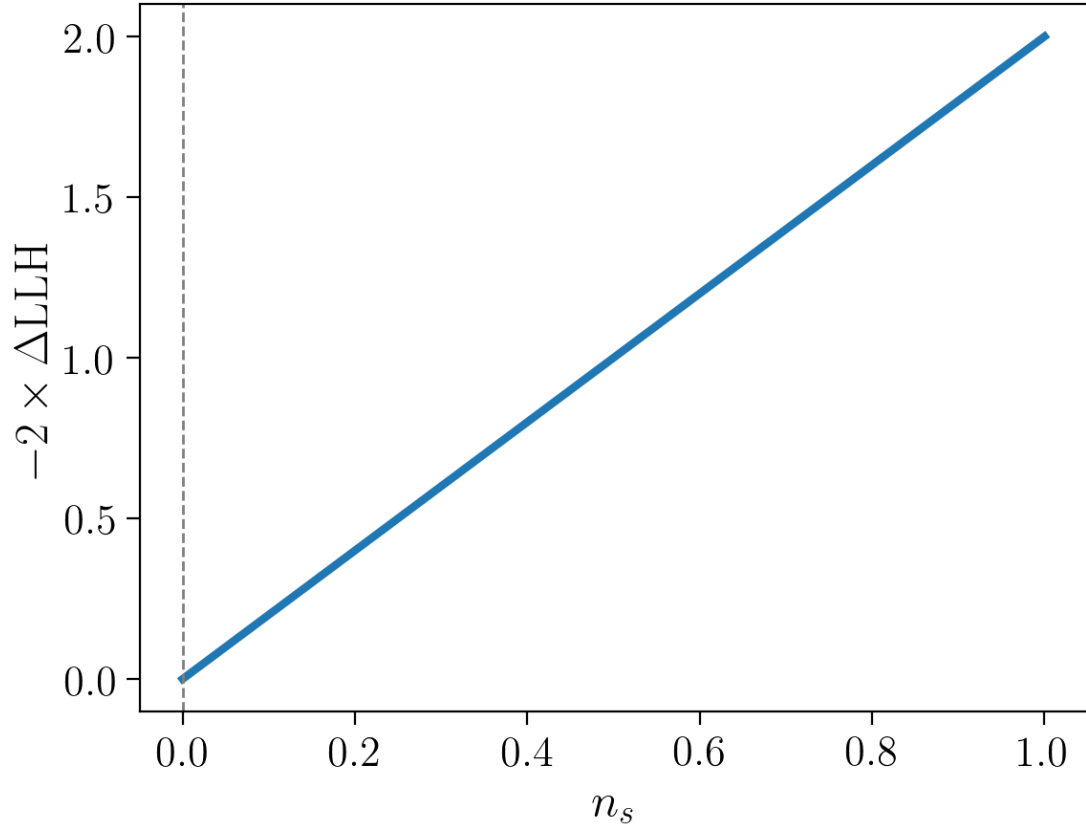
n_s	0.000
TS	-0.000
$p - value$	1.0000

Limit dN/dE



No background TS distribution





These plots are meant as validations of the minimizer, and cannot be interpreted directly using Wilk's assuming one degree of freedom because the low statistics invalidates the asymptotic condition for Wilk's theorem.