



# ***ARISSat-1 and AMSAT Update***

***ARISS-I 2011***

***JSC Houston, TX***

***28-29 October 2011***

***by***

***Keith Pugh, W5IU***

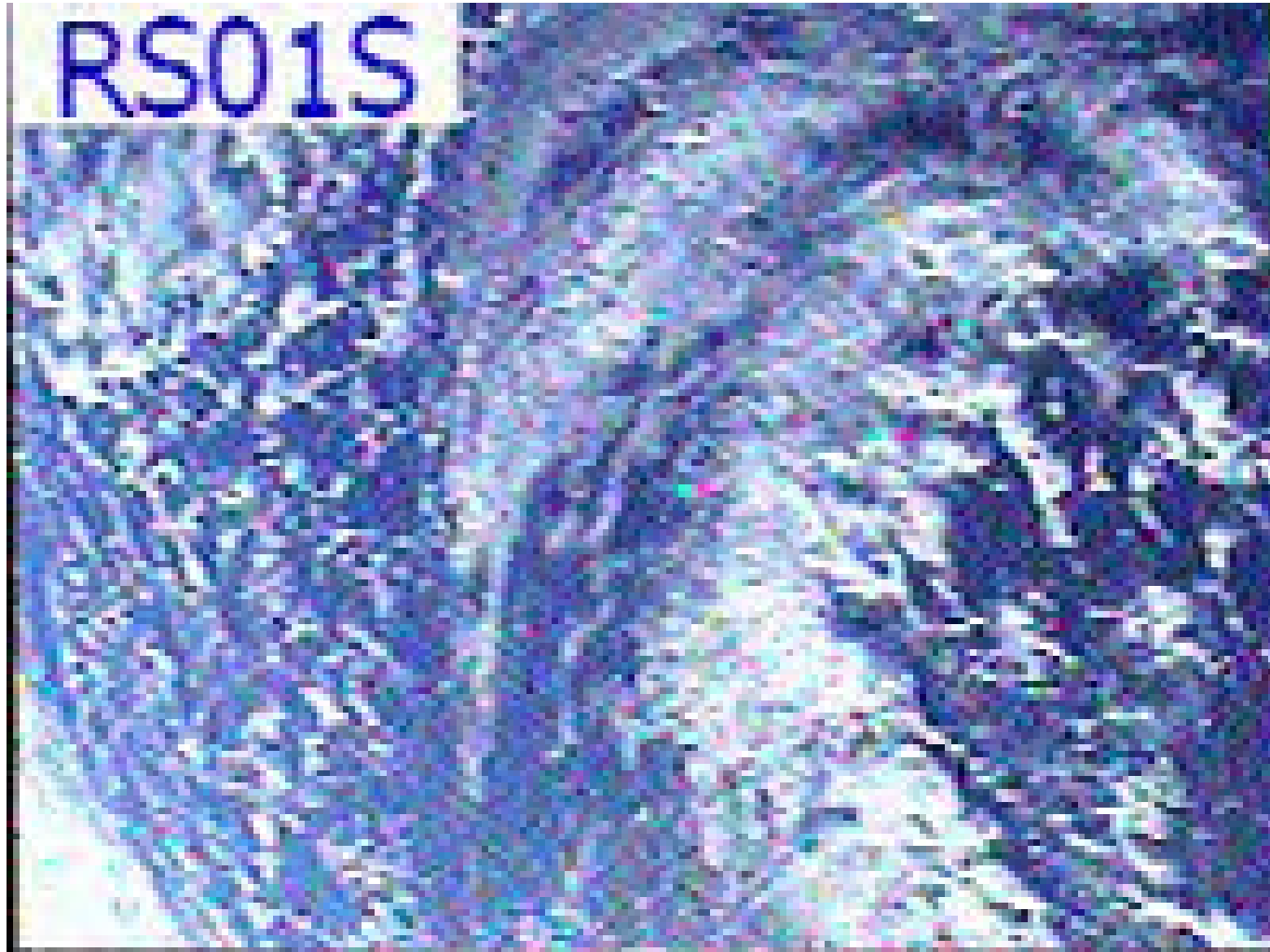
# *ARISSat-1 Update*

- ***Deployed*** – 3 August 2011 from ISS
- ***70 cm Antenna*** – Broken but working
- ***Battery*** – Failed “Open” after a couple of weeks. Power System takes over!
- ***Working well when not in Eclipse***
- ***Continues to “Fly Like a Butterfly” after three months***

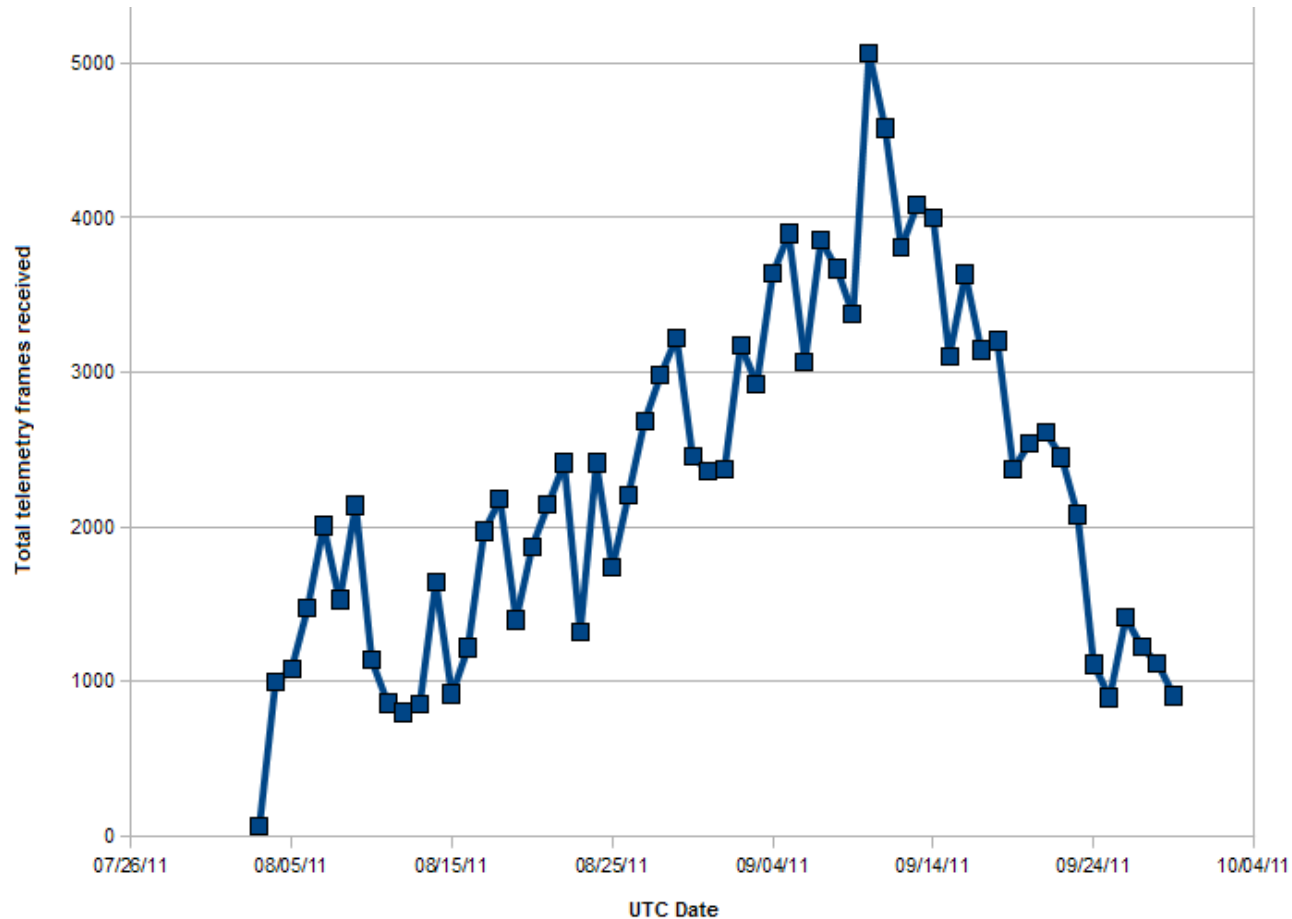
# *ARISSat-1 Operation*

- *All modes working!*
- *“Chicken Little Contest”* – Entry Deadline Past  
– Personal Opinion – *“Good for the Rest of the Year!”*
- *SSTV Archive getting Huge!*
- *Secret Words being submitted from all over*
- *CW Contest – Well Underway*
- *Being used to Promote STEM in Education but needs more exposure!*

# ***ARISSat-1 SSTV***



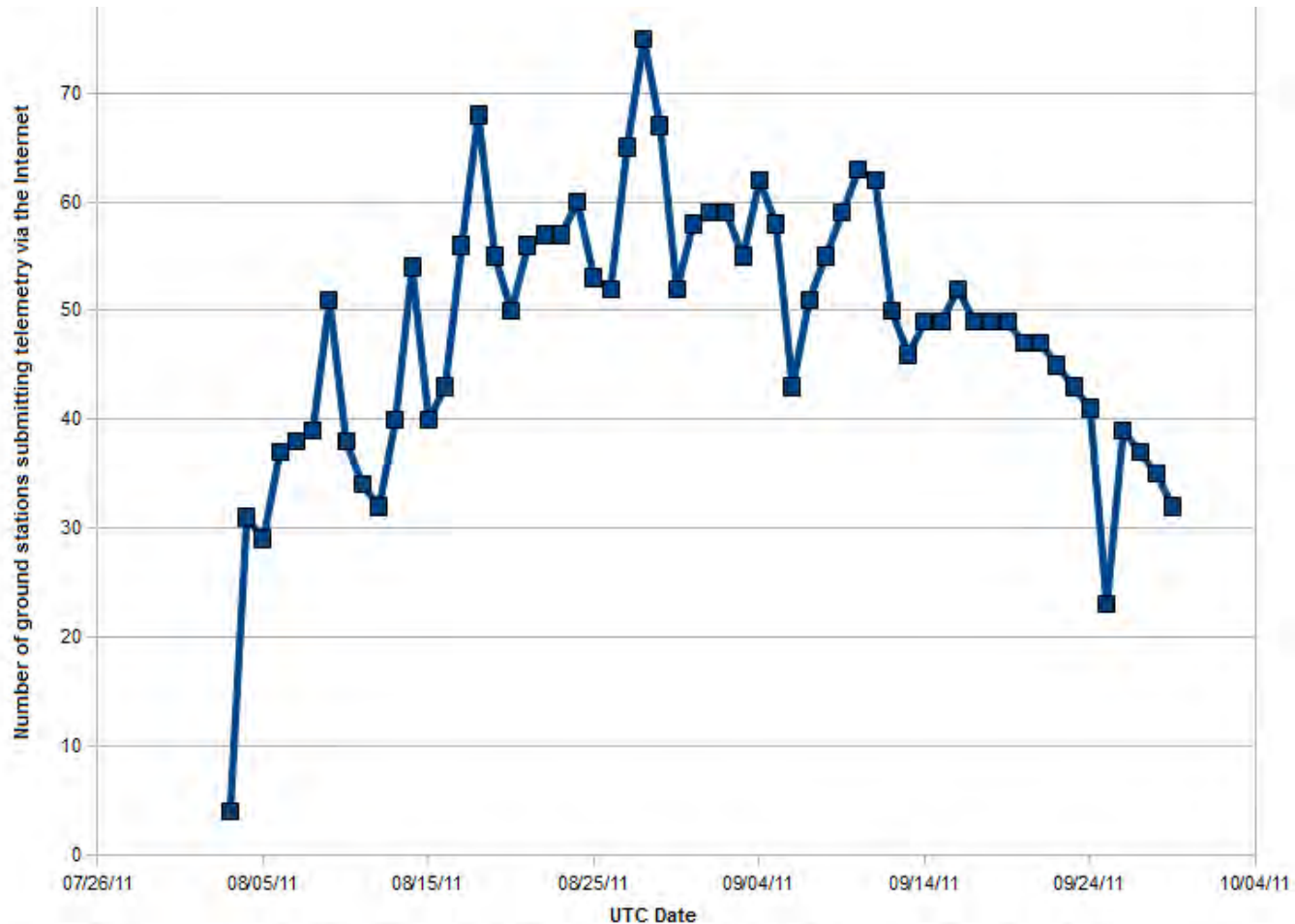
# ARISSat-1 Telemetry



Total telemetry frames (spacecraft and KURSK experiment telemetry, including duplicate frames) received by the Internet Telemetry Server per UTC day from 2011-08-03 to 2011-09-29

Source: KA2UPW/5

# ARISSat-1 Telemetry



Number of ground stations that were submitting ARISSat-1 telemetry to the Internet Telemetry Server per UTC day from 2011-08-03 to 2011-09-29.

Source: KA2UPW/5

# ARISSat-1 Telemetry

## Ground Stations Reporting Telemetry (Per Country) as of 9-29-2011

Argentina	3	Australia	18	Belgium	4	Brazil	3
Canada	5	Croatia	1	Czech Republic	3	Denmark	2
England / UK	19	Finland	1	France	10	Germany	14
Greece	2	Guernsey / UK	1	Ireland	2	Israel	1
Italy	11	Japan	19	Malaysia	1	Malta	1
Netherlands	3	New Zealand	3	Norway	2	Poland	2
Portugal	2	Russia	3	Scotland / UK	2	Serbia	1
Slovak Republic	1	South Africa	1	Spain	2	Sweden	2
Switzerland	3	Thailand	7	Turkey	1	Ukraine	1
United Kingdom	10	United States	87	Unknown	3	Vietnam	1
Wales / UK	1						
Total Countries		41					

# *ARISat-1 Telemetry*

## **Total Telemetry Frames (By Country) as of 9-29-2011**

Argentina	786	Australia	5989	Belgium	2505	Brazil	2485
Canada	5966	Croatia	7	Czech Republic	603	Denmark	39
England/UK	7467	Finland	25	France	2411	Germany	8144
Greece	1144	Guernsey /UK	115	Ireland	62	Israel	49
Italy	813	Japan	25823	Malaysia	253	Malta	743
Netherlands	3126	New Zealand	4863	Norway	365	Poland	45
Portugal	352	Russia	2410	Scotland / UK	112	Serbia	31
Slovak Republic	464	South Africa	310	Spain	377	Sweden	3507
Switzerland	721	Thailand	4458	Turkey	43	Ukraine	11
United Kingdom	541	United States	45524	Unknown	645	Vietnam	57
Wales / UK	197						



## ARISSat-1 Telemetry - Full Decode

This telemetry was received on Sun, 02 Oct 2011 14:58:00 UTC

Uptime:1112 seconds - 00d:00h:18m:32s - Mode: HIGH PWR

## Battery

Batt Voltage	35.628
Batt Current	-0.016
PSU Vdd	5.054
5V VDD	5.054
Charging A.h	0.001
Discharging A.h	0.002
Net A.h	-0.001

Battery is Discharging

## Power Consumption

Camera	0.000	153535
Experiment	0.000	609977
IHU	0.207	10637945
SDX	0.240	13442377
5 Volt	0.476	25578133
RF (8V)	0.466	11049407

## Status

IHU	ACTIVE	Camera1	OFF	Experiment	OFF
PSU	ACTIVE	Camera2	OFF	5 Volt	ACTIVE
SDX	ACTIVE	Camera3	OFF	8 Volt	ACTIVE
		Camera4	OFF		

## Temp

IHU PCB	40°C	Top Camera	15°C
PSU	38°C	Bottom Camera	30°C
RF	42°C	Control Panel	16°C
Batt	22°C	Experiment	17°C
RF Enc	23°C		

## +X PPT-0

Energy	7828483
Solar temp	19°C
Diode temp	34°C
Ind_temp	38°C
sp_current_adc_raw	0.000A
sp_voltage_raw	14.421V
osc_ccp_current_setpt	0.032V
aged	Current
corrupt	0

## -X PPT-1

Energy	6083963
Solar temp	12°C
Diode temp	34°C
Ind_temp	37°C
sp_current_adc_raw	0.188A
sp_voltage_raw	46.095V
osc_ccp_current_setpt	0.059V
aged	Current
corrupt	0

## +Z PPT-2

Energy	6255466
Solar temp	68°C
Diode temp	33°C
Ind_temp	36°C
sp_current_adc_raw	0.141A
sp_voltage_raw	41.975V
osc_ccp_current_setpt	0.032V
aged	Current
corrupt	0

## -Y PPT-3

Energy	4596682
Solar temp	11°C
Diode temp	33°C
Ind_temp	36°C
sp_current_adc_raw	0.004A
sp_voltage_raw	26.267V
osc_ccp_current_setpt	0.059V
aged	Current
corrupt	0

## +Y PPT-4

Energy	4706089
Solar temp	18°C
Diode temp	32°C
Ind_temp	35°C
sp_current_adc_raw	0.000A
sp_voltage_raw	14.421V
osc_ccp_current_setpt	0.032V
aged	Current
corrupt	1

## -Z PPT-5

Energy	779082
Solar temp	-7°C
Diode temp	32°C
Ind_temp	35°C
sp_current_adc_raw	0.000A
sp_voltage_raw	22.146V
osc_ccp_current_setpt	0.032V
aged	Current
corrupt	0

# ***Plan for Live Demos***

- Get your “Foot in the Door” with schools
- Schedule briefing sessions during school hours to get ready for live Demos
- Organize live Demos Outdoors
  - Print out all available passes and pick ones that will work for Demos within or close to school hours
  - Organize Demos around availability

# ***Community Help Getting the Word into the Schools***

- Contact through local Teachers
- Contact through Amateur Radio Clubs
- Contact through Service Clubs
  - Kiwanis Sponsored Youth
    - Key Clubs – High School
    - Builders Clubs – Middle School
    - K-Kids – Elementary Schools
    - CKI – University Level
  - Lions, Rotary, etc.

# *Crowley Key Club Listening Party*



# **AO-51**

- ***Sick but “Hanging in There”***
- ***Use it while you can***

# *Project Fox*

- *AMSAT's Cubesat*
- *Now Fox 1 and Fox 2*
  - *Fox 1 – AO-51 Replacement*
  - *Fox 2 – New Mode Development*
- *Much discussion and action now!*

# *Other “Birds”*

- *Linear* – AO-07, VO-52, FO-29, HO-68
- *FM* – AO-27, SO-50, SO-67, ISS
- *Use While You Can!*

# Summary

- Support this activity – Volunteer – ARISS needs you!
- Help us get ARISSat-1 into the schools.
- **Support Project Fox – Dollars & Time**
- *Help bring forth new generations of people with an expanded knowledge of science, space, and technology – if we don't who will be interested in and be members of the Scientific Community in 20 years.*



# *Contact Information*

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ARISSat-1: <http://www.arissat1.org>

SSTV: <http://ariss-sstv.blogspot.com/>

Telemetry: <http://www.arissatlm.org/live>