Wide-field Infrared Survey Explorer (WISE)

WSDC Ingest Analysis Summary for the April 2009 Radio Frequency Simulation Operations Center Test

Version 1.0

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Revision History

Date	Version	Author	Description
May 4, 2009	1.0	CRG	Initial Draft

1 INTRODUCTION

This document describes the role of the WSDC at IPAC during the RFSOC test conducted on 30 April 2009. During the test, two sets of data were delivered. The WSDC's role during the test was to receive and ingest the data files that were received during the test.

1.1 Acronyms

HRP: High Rate Processor
IPAC: Infrared Processing and Analysis Center
RFSOC: Radio Frequency Simulation Operations Center
VTC: Vehicle Time Code
WISE: Wide-field Infrared Survey Explorer
WSDC: WISE Science Data Center

2 SUMMARY OF DELIVERED FILES

Two sets of five (5) files each were delivered to the WSDC via FastCopy on 30 April 2009. The transfer worked as expected and the files were staged to the WSDC FastCopy inbox. Following the successful staging, the files were automatically transferred to the flight operations ingest area and email notification was sent out upon completion of the transfer. The following table summarizes the files that were received.

Table 1 :Summary of Files Delivered for RFSOC

File	Size (bytes)	Pass
WIS_HRP_PKT_FE1A_2009_120_19_35_58.bin	849841356	1
WIS_HRP_PKT_FE1B_2009_120_19_35_58.bin	837923268	1
WIS_HRP_PKT_FE1C_2009_120_19_35_58.bin	782945436	1
WIS_HRP_PKT_FE1D_2009_120_19_35_58.bin	194081160	1
WIS_HRP_SUM_2009_120_19_35_58.txt	218	1
WIS_HRP_PKT_FE1A_2009_120_19_54_58.bin	478614864	2
WIS_HRP_PKT_FE1B_2009_120_19_54_58.bin	471614052	2
WIS_HRP_PKT_FE1C_2009_120_19_54_58.bin	440201580	2
WIS_HRP_PKT_FE1D_2009_120_19_54_58.bin	109182528	2
WIS_HRP_SUM_2009_120_19_54_58.txt	218	2

Each file delivered was the size expected from the WIS_HRP_SUM*.txt files for each set. No problems were discovered during the FastCopy file transfer or with the transfer to the ingest area.

3 INGEST PIPELINE SUMMARY

Each set of data were run through the WSDC ingest pipeline. The purpose of the ingest pipeline is to create basic FITS frames (aka raw frames) from the data in the binary data files. The test did not reveal any problems with the ingest pipeline.

3.1 Pass 1 (2009-120/19:35:58)

For Pass 1 the ingest pipeline was able to generate 966 images for W1 and 967 images for W2, W3, and W4. Bands W2, W3, and W4 contained no errors during ingest. For W1, the first frame (VTC=1497.6676) was listed as having "orphaned image fragments." The last frame (VTC=12134.3645) was listed as having "decompression errors" and a size of 1439072 bytes instead of the expected 2097152 bytes. Since the WSDC received all of the data expected from the manifest, these frames were likely corrupted prior to delivery.

A spot-check of the raw images reveals 6 different images were present in each band. These six images repeat in sequence throughout the entire set. No significant problems were found for these images.

3.2 Pass 2 (2009-120/19:54:58)

For Pass 2 the ingest pipeline was able to generate 966 images for W1 and 967 images for W2, W3, and W4. Bands W2, W3, and W4 contained no errors during ingest. For W1, the first frame (VTC=6139.5530) was listed as having "orphaned image fragments." The last frame (VTC=12134.3645) was listed as having "decompression errors" and a size of 1439072 bytes instead of the expected 2097152 bytes (note that the decompressed file size is the same for Pass 2 as it is for Pass 1). Since the WSDC received all of the data expected from the manifest, these frames were likely corrupted prior to delivery.

A spot-check of the raw images reveals 6 different images were present in each band. These six images appear to be the same images as in Pass 1 and repeat in sequence throughout the entire set. No significant problems were found for these images.