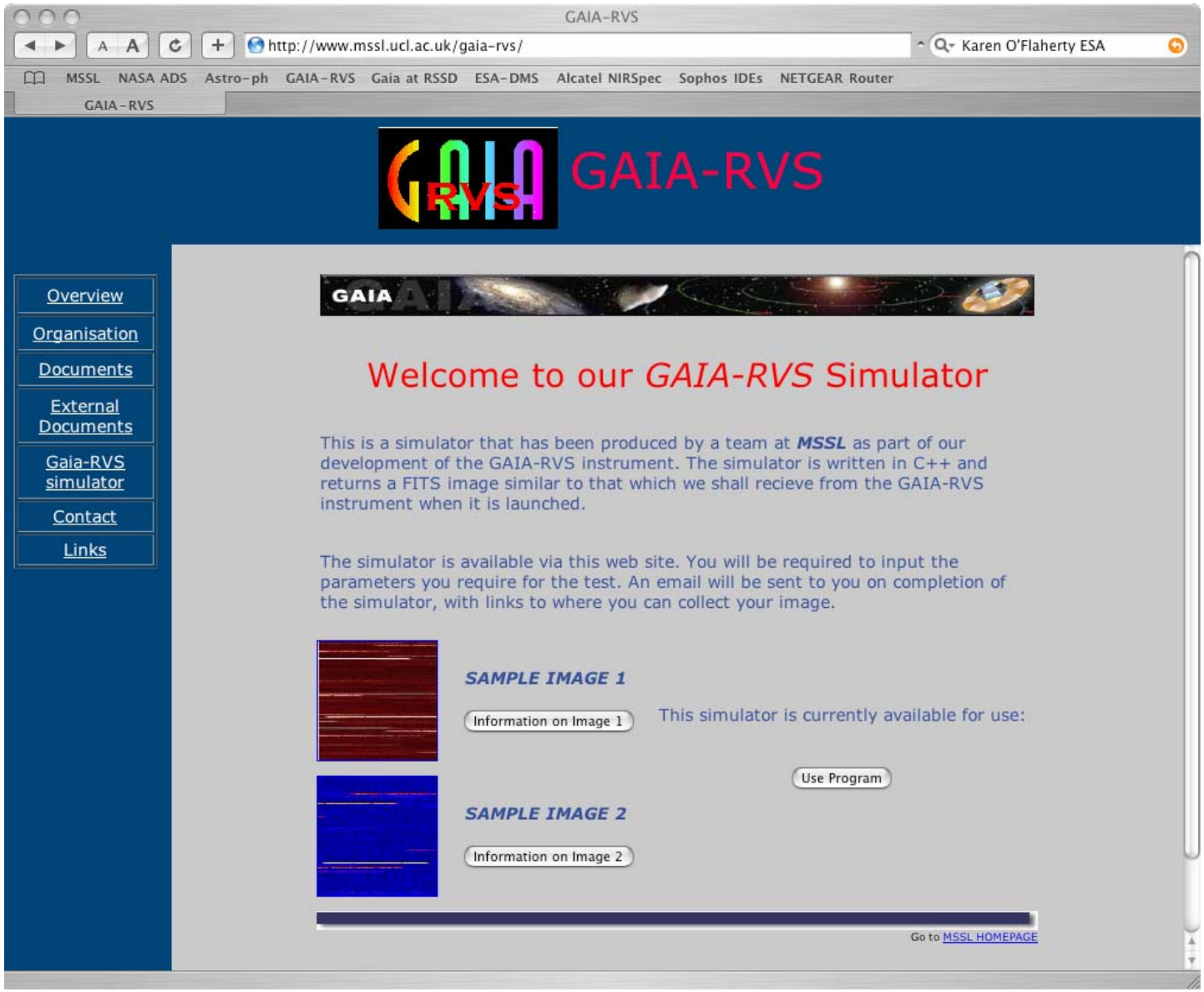
RVS Simulator Status

RVS-WG 8, Padua

Mark Cropper

Simulator Overview

- No improvement to core code since the last WG meeting
- User interface now implemented for external use:
  - interface simplified
  - job submitted automatically with unique identifiers
  - acknowledgement sent by email
  - job may take some time to run
  - further email sent on completion, with location at which to pick up the files
- Output includes
  - generated image
  - star positions, spectral types, magnitudes
  - parameters used
  - log file of the processing


GAIA-RVS
http://www.mssl.ucl.ac.uk/gaia-rvs/
Karen O'Flaherty ESA
MSSL NASA ADS Astro-ph GAIA-RVS Gaia at RSSD ESA-DMS Alcatel NIRSpec Sophos IDEs NETGEAR Router
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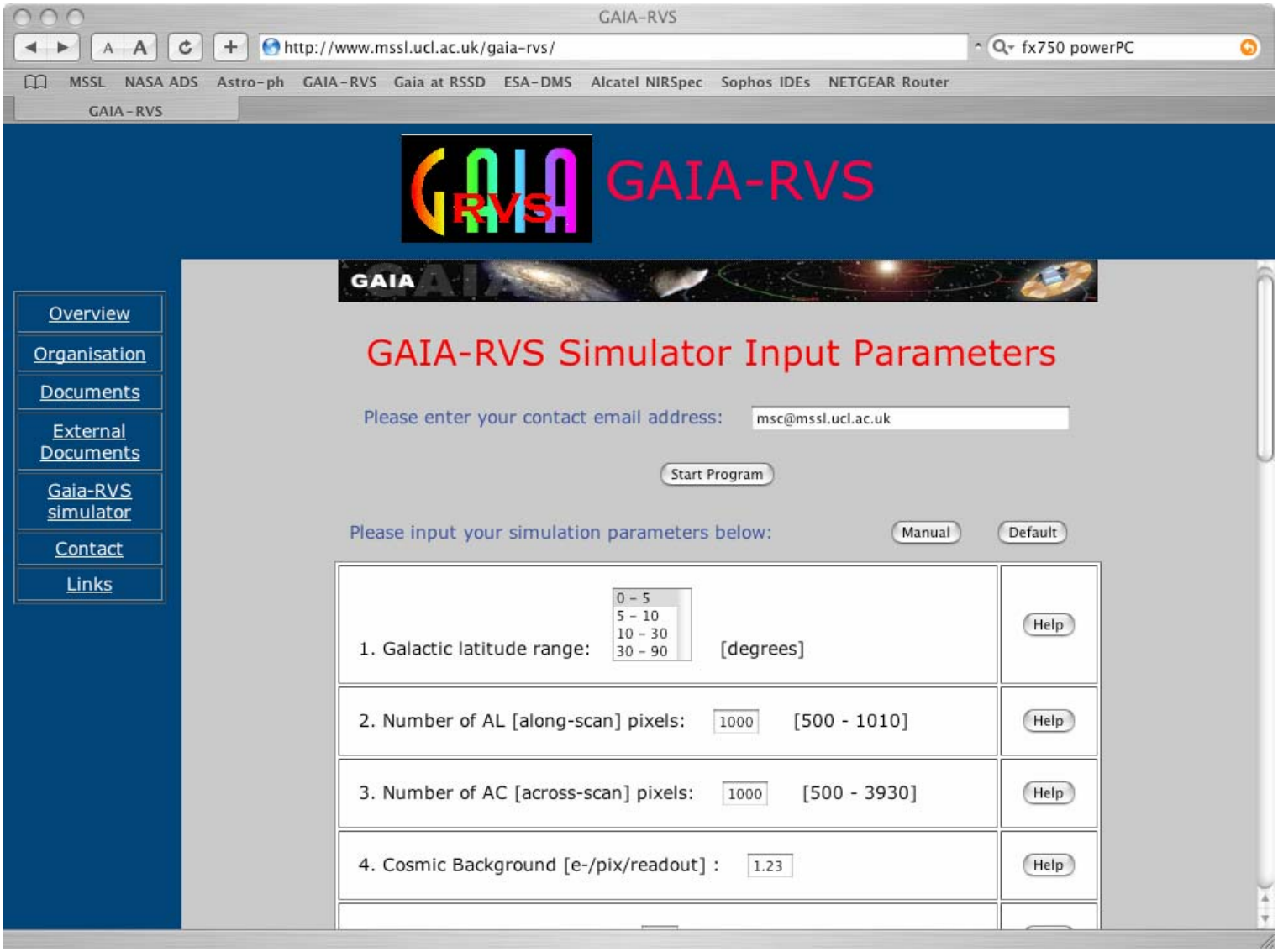
GAIA
Welcome to our GAIA-RVS Simulator
This is a simulator that has been produced by a team at MSSL as part of our development of the GAIA-RVS instrument. The simulator is written in C++ and returns a FITS image similar to that which we shall recieve from the GAIA-RVS instrument when it is launched.
The simulator is available via this web site. You will be required to input the parameters you require for the test. An email will be sent to you on completion of the simulator, with links to where you can collect your image.
SAMPLE IMAGE 1
Information on Image 1
This simulator is currently available for use:
Use Program
SAMPLE IMAGE 2
Information on Image 2
Go to MSSL HOMEPAGE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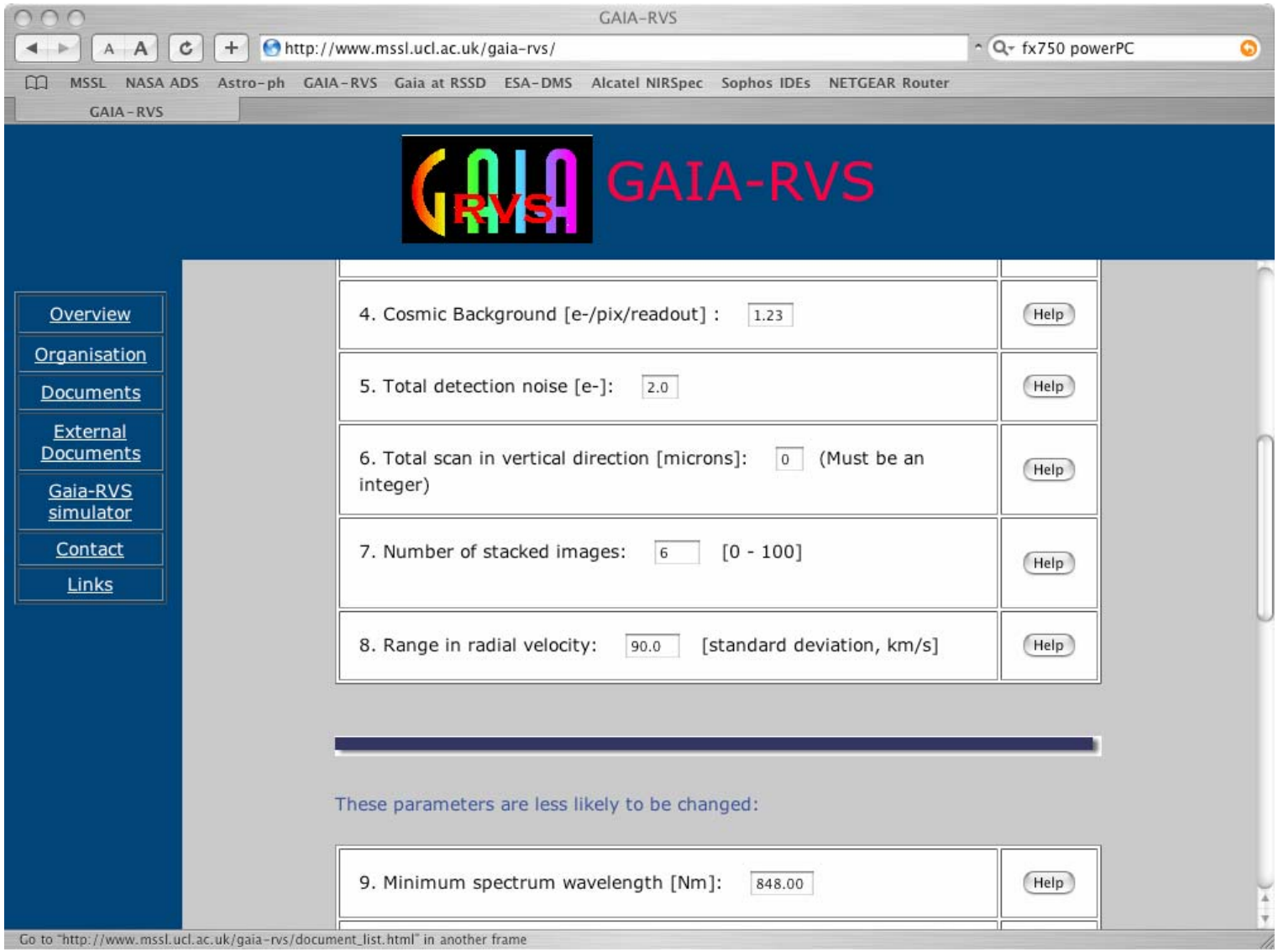
GAIA-RVS Simulator Input Parameters
Please enter your contact email address:
msc@mssl.ucl.ac.uk
Start Program
Please input your simulation parameters below:
Manual
Default
1. Galactic latitude range:
0 - 5
5 - 10
10 - 30
30 - 90
[degrees]
Help
2. Number of AL [along-scan] pixels:
1000
[500 - 1010]
Help
3. Number of AC [across-scan] pixels:
1000
[500 - 3930]
Help
4. Cosmic Background [e-/pix/readout] :
1.23
Help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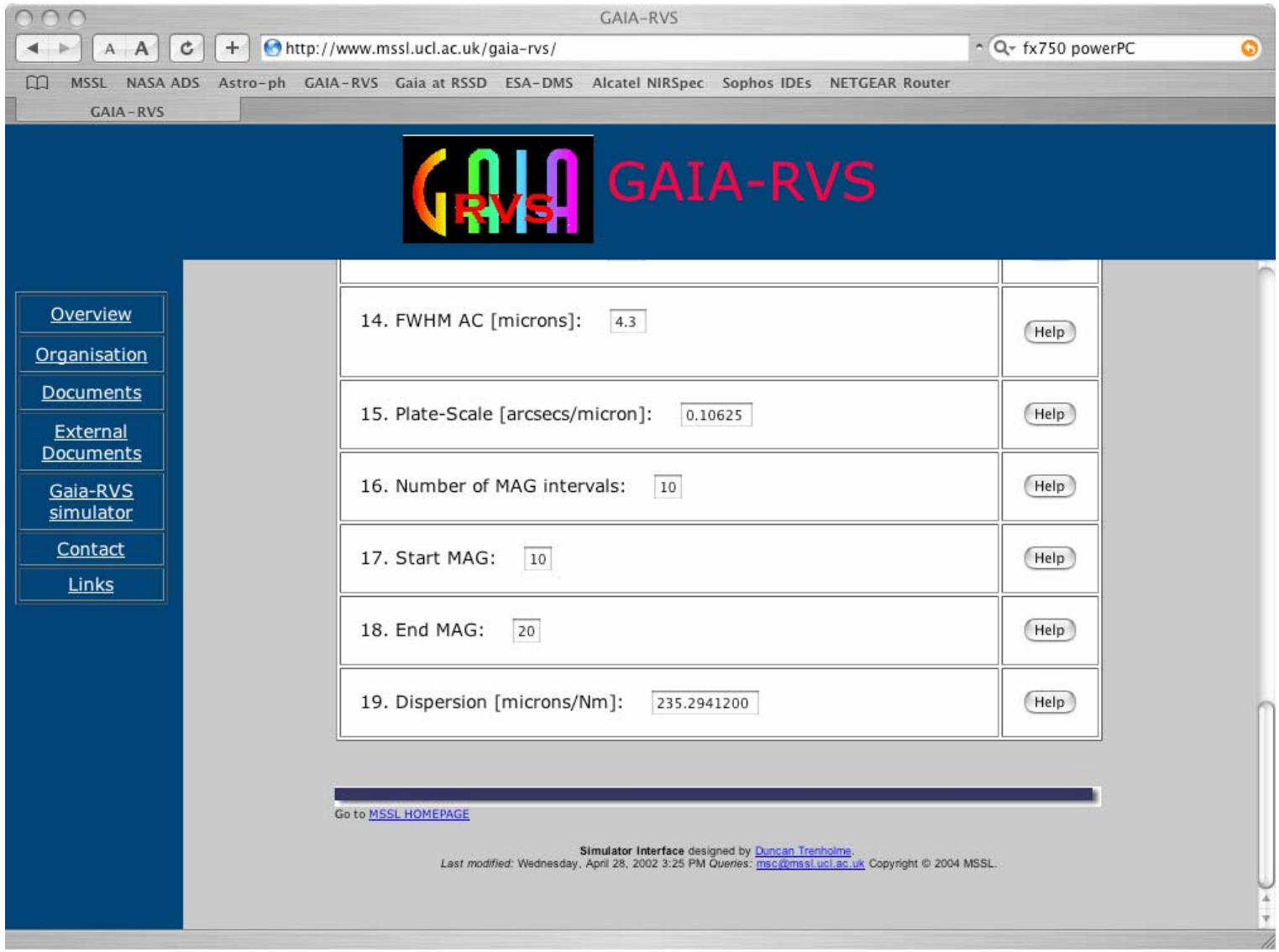
4. Cosmic Background [e-/pix/readout] : 1.23 Help
5. Total detection noise [e-]: 2.0 Help
6. Total scan in vertical direction [microns]: 0 (Must be an integer) Help
7. Number of stacked images: 6 [0 - 100] Help
8. Range in radial velocity: 90.0 [standard deviation, km/s] Help
These parameters are less likely to be changed:
9. Minimum spectrum wavelength [Nm]: 848.00 Help
Go to "http://www.mssl.ucl.ac.uk/gaia-rvs/document_list.html" in another frame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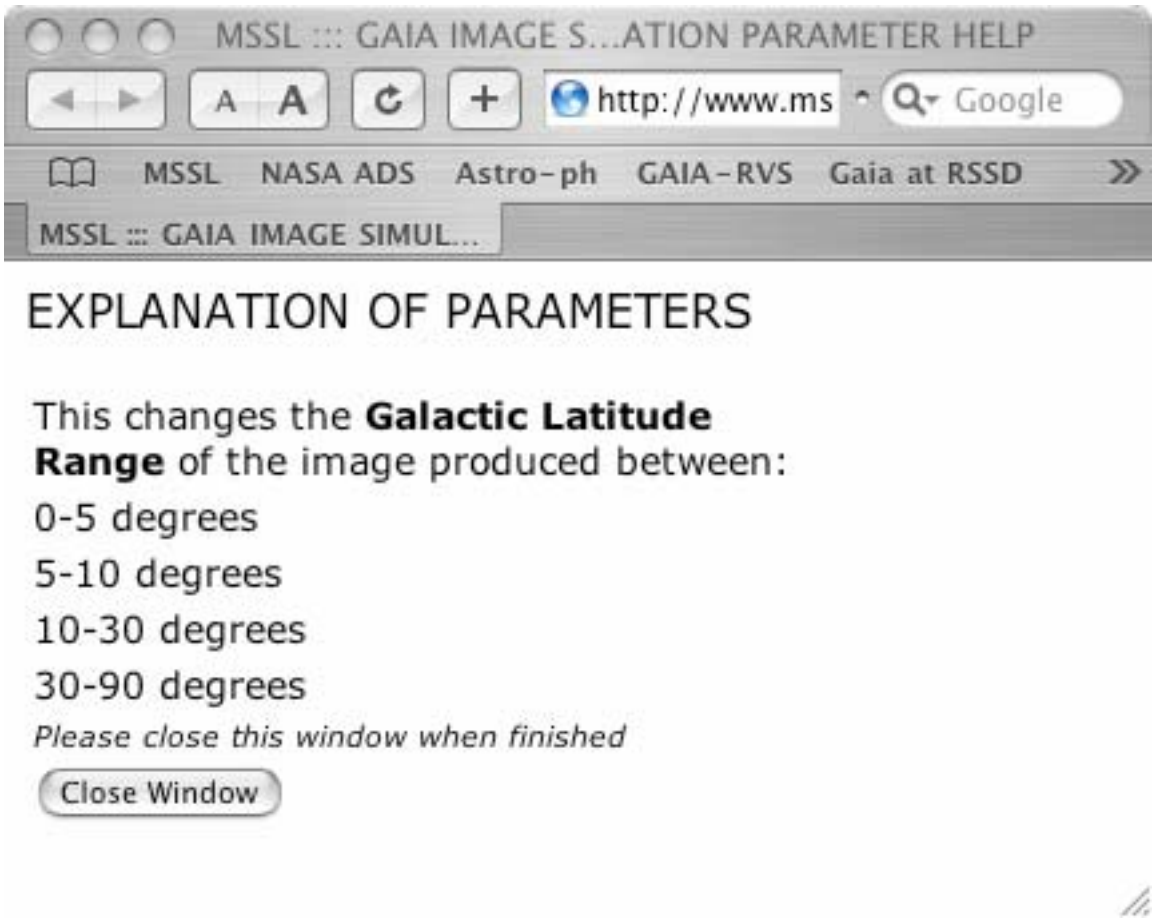
14. FWHM AC [microns]: 4.3
Help
15. Plate-Scale [arcsecs/micron]: 0.10625
Help
16. Number of MAG intervals: 10
Help
17. Start MAG: 10
Help
18. End MAG: 20
Help
19. Dispersion [microns/Nm]: 235.2941200
Help
Go to MSSL HOMEPAGE
Simulator Interface designed by Duncan Trenholme.
Last modified: Wednesday, April 28, 2002 3:25 PM Queries: msc@mssl.ucl.ac.uk Copyright © 2004 MSSL.


MSSL ::: GAIA IMAGE S...ATION PARAMETER HELP
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NASA ADS
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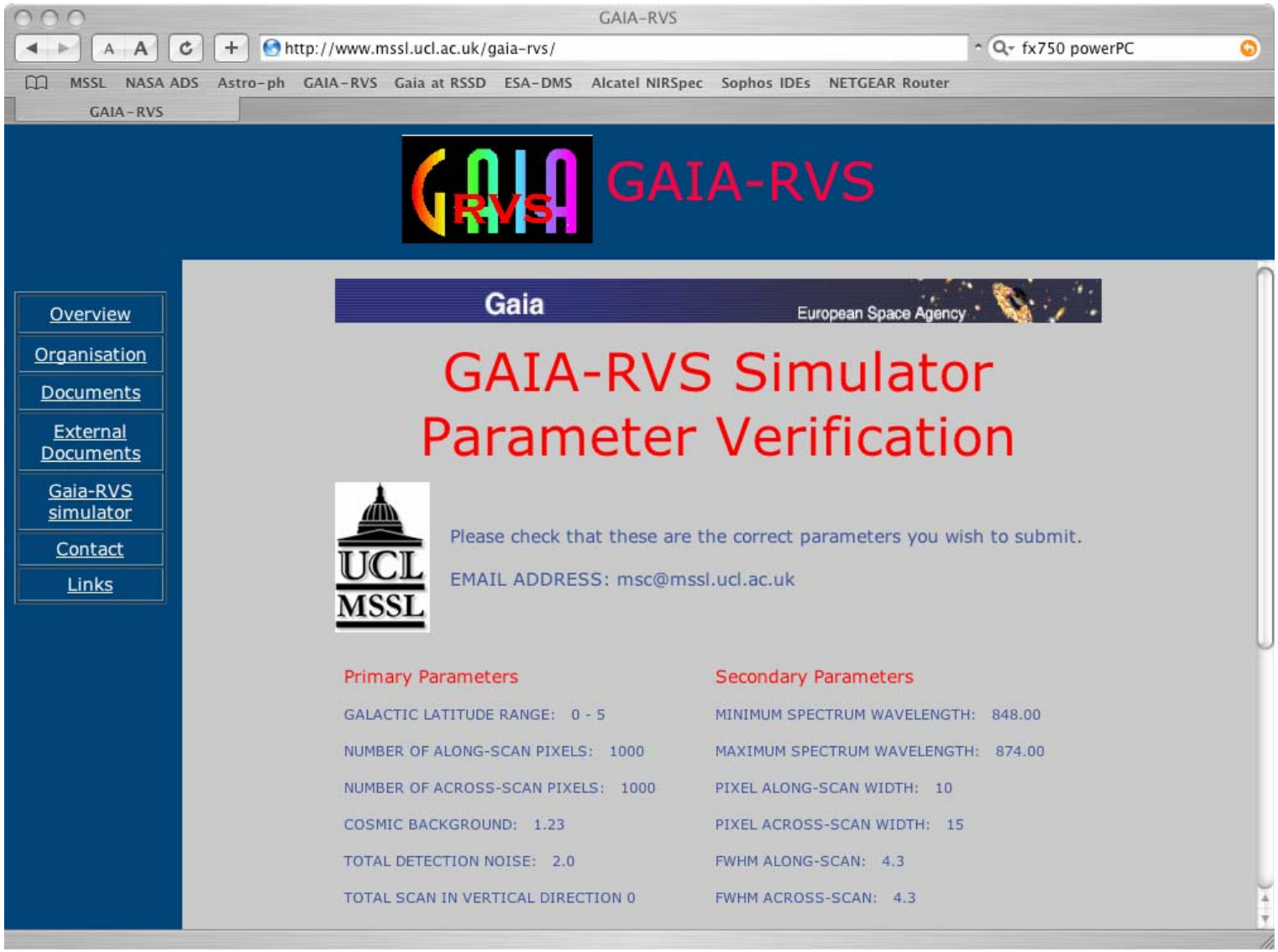
GAIA-RVS
Gaia at RSSD
MSSL ::: GAIA IMAGE SIMUL...
EXPLANATION OF PARAMETERS
This changes the **Galactic Latitude Range** of the image produced between:
0-5 degrees
5-10 degrees
10-30 degrees
30-90 degrees
Please close this window when finished
Close Window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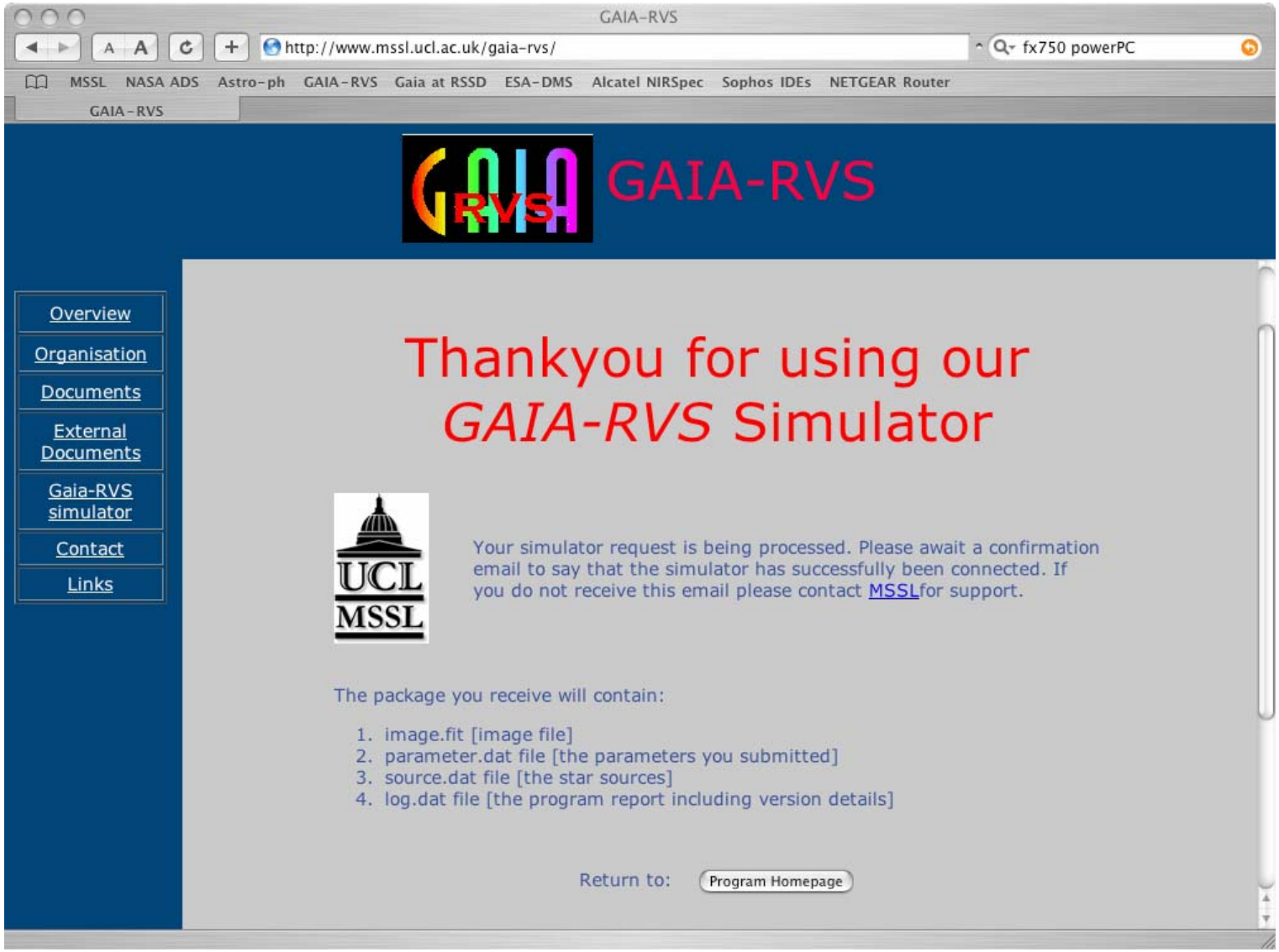
Gaia
European Space Agency
GAIA-RVS Simulator
Parameter Verification
UCL MSSL
Please check that these are the correct parameters you wish to submit.
EMAIL ADDRESS: msc@mssl.ucl.ac.uk
Primary Parameters
GALACTIC LATITUDE RANGE: 0 - 5
NUMBER OF ALONG-SCAN PIXELS: 1000
NUMBER OF ACROSS-SCAN PIXELS: 1000
COSMIC BACKGROUND: 1.23
TOTAL DETECTION NOISE: 2.0
TOTAL SCAN IN VERTICAL DIRECTION 0
Secondary Parameters
MINIMUM SPECTRUM WAVELENGTH: 848.00
MAXIMUM SPECTRUM WAVELENGTH: 874.00
PIXEL ALONG-SCAN WIDTH: 10
PIXEL ACROSS-SCAN WIDTH: 15
FWHM ALONG-SCAN: 4.3
FWHM ACROSS-SCAN: 4.3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Thankyou for using our GAIA-RVS Simulator
UCL MSSL
Your simulator request is being processed. Please await a confirmation email to say that the simulator has successfully been connected. If you do not receive this email please contact MSSL for support.
The package you receive will contain:
1. image.fit [image file]
2. parameter.dat file [the parameters you submitted]
3. source.dat file [the star sources]
4. log.dat file [the program report including version details]
Return to:
Program Homepage

Further Work

- Need to generate a suite of images from different parts of the focal plane to include optical characteristics – images are all the same at present
- Need to include cosmic rays and pixel defects
- Need to include CCD effects (MTF etc,)
- Update the interface to accommodate changes

Will be used (at least) for the RVS on-board algorithms, but open to public use. Please respect processing capability at MSSL.