

NRO Solar Radio Net User's Guide

(version 2.3 - 2007-9-5)

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1. Introduction

Detailed information is on our NRO SolarNetwork web page at

<http://solar.nro.nao.ac.jp/computer/>

Questions and comments are welcome at

manager@solar.nro.nao.ac.jp

We will reply as soon as possible.

2. How to Use Solar Radio Net

(1) Getting an Account, Temporal Usage for Short Term

We will give a user ID to anybody who wants to study the astronomical/solar plasma physics by using Nobeyama data (Radioheliograph, Radio Polarimeter). You can get a form from our web site.

There is also a guest account. Contact a manager for the ID name and password.

(2) Templates for Configuration files

Some Templates files are copied in your home directory

when you first login our network.

You can also use other templates in /share/template by copying and modifying them to fit your taste.

(3) Computers and Devices

The NRO Solar Radio Net consists of the following machines.

• Hosts and their Sites

Room 21

pcheliog2	Terminal (PC Linux-Vine)
pcheliog3	Terminal (PC Linux-Vine)
pcheliog5	Terminal (PC Linux-Vine)
pcheliog7	Terminal (PC Linux-Vine)
burst5	Terminal (PC Linux-Vine)
epsilon	Terminal (PC Linux-Vine)
delta	Terminal (PC WinXP)
prcl	Both-sides Color Printer (Epson LP8800)
pre1	Both-sides Monochrome Printer (Epson LP9200PS3)

Room 22

pcheliog0	Terminal (PC Linux-Vine)
pcheliog4	Terminal (PC Linux-Vine)
pcheliog6	Terminal (PC Linux-Vine)
helios2	Terminal (PC Linux-Vine)
helios3	Terminal (PC Linux-Vine)

Room 26

prtk2	Color Printer (XEROX Phaser 8200DP)
pre2	Both-sides Monochrome Printer (Epson LP9200PS3)

Room 27

dbmaruyama	Terminal (PC Win2k)
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pr2s Both-sides Monochrome Printer (Canon LBP870)

Room 28

pre3 Both-sides Monochrome Printer (Epson LP9200PS3)

Room 20

sx8 Computation Server (NEC/SX8 SuperUX)

burst4 Gateway Server (PC Linux-RedHat)

radio1 Analysis Server (PC Linux-RedHat)

radio2 Analysis Server (PC Linux-RedHat)

burst6 Analysis Server (PC Linux-Vine)

media1 Terminal (NEC/EWS SVR4)

pra0 A0 Color Printer (Epson PM9000C)

Non-fixed Terminal

letsnote Terminal (LT-PC WinXP)

* I/O Devices

Note: Every host has own CD-ROM

radio1, (Linux-RedHat)

DAT DDS4

burst5 (Linux-Vine)

DAT DDS4

CD-R Writer

media1 (NEC/EWS SVR4)

MO 5inch 1.3Gbyte 1024byte/sector

8mm Tape

DAT DDS3

epsilon (Linux)

DVD-ROM

DVD-R, RW, R+W

(4) Disk Area

(Except for System Area)

/home User's home directory
/scr/s* Shared work area1 (s01, s02, s03, s04, s05)
/scr/s* Shared work area2 (work01, work02, work03)
/solardb Solar observation data (including NRO data)
/share Shared softwares

[Caution]

All files in the /scr/work01 are erased at 1st day of Jan, Apr, Jul, Oct.

/scr/work02 are erased on 1st Feb, May, Aug, Nov.

/scr/work03 are erased on 1st Mar, Jun, Sep, Dec.

* Disk usage limitation

The following directories have a limitation for usage.

Home directory	/home/(username)	Maximum 1Gbyte
User's web files	/scr/s00/user/(username)	Maximum 1Gbyte

(5) Softwares

Different kinds of OS's exist in our network. Refer to Item (2).

* E-mail

Use burst4 for sending and receiving e-mail,

Login directly or use APOP (from outside NAO) or POP3 (only inside NAO).

Note that the e-mail address for receiving is "username@solar.nro.nao.ac.jp"
not "username@burst4.nro.nao.ac.jp".

* Image Analysis

Use following powerful hosts for analysis using IDL

radio1	Analysis Server (RHEL Xeon3.6GHz 4CPU Main Memory 8Gbyte)
radio2	Analysis Server (RHEL Xeon3.6GHz 4CPU Main Memory 8Gbyte)
burst6	Analysis Server (Vine Xeon3.0GHz 2CPU Main Memory 4Gbyte)

* Free/Public Domain Softwares

Various free/public domain softwares are available on burst4 and other Linux terminals.

* Windows Softwares

Cygwin(is included the X server)

Microsoft Office

Adobe Acrobat

Adobe Photoshop

Adobe Illustrator

Adobe Premiere

Beside these, SSH(Putty, TeraTerm), FTP, Image viewer etc.

(6) How to Print

For printing from UNIX hosts,

```
lpr -P(printername) (PostScript file name)
```

Except pra0, all are PostScript printers. The printer names are as follows:

Site	Name	Note
Room 21	pra0	A0 Color (Epson PM9200C)
Room 22	prc1	Both-sides Color (Epson LP-8800)
Room 22	pre1	Both-sides Monochrome (Epson LP-9200PS3)
Room 26	pre2	Both-sides Monochrome (Epson LP-9200PS3)
Room 27	pr2s	Both-sides Monochrome (Canon LBP870)
Room 28	pre3	Both-sides Monochrome (Epson LP-9200PS3)

(7) How to Use I/O Devices

Tape device (DAT, 8mm)

Linux

```
DAT DDS4 /dev/st0 or /dev/nst0
```

media1 (NEC/EWS SVR4)

DAT DDS3

8mm

CD-R, DVD-R/RW

Linux

unix% mount /mnt/cdrom # unnecessary to be root

unix% umount /mnt/cdrom

Mount point is

/mnt/cdrom

media1

unix% cdmount

unix% cdumount

Mount point is

/cdrom

CD/DVD-R Writer

The CD-R device is attached on burst5. And, the "xcdroast" that is the CD-burning software is installed in burst5.

Please read the manual web page of "xcdroast", if you want to burn the CD-R.

<xcdroast manual>

<http://www.xcdroast.org/manual/>

MO 5inch

See Appendix 2.

(8) Data Open by Web and Anonmous FTP

Put the files under the following directories

/scr/s00/www/(username) # Web

/archive/pub/user/(username) # Anonymous FTP

These files are reachable by URLs

`http://solar.nro.nao.ac.jp/user/(username)`

`ftp://solar.nro.nao.ac.jp/pub/user/(username)`

(9) How to get data from outside to our Anon. FTP server

Use following URL for getting data from outside anonymous user.

`ftp://solar.nro.nao.ac.jp/incomings/`

The files will come to the following directory

`/scr/incomings`

Note that this directory will be cleaned up once a month.

3. Network

(1) DHCP

Your laptop can connect to our network by DHCP.

(2) Access to Solar Radio Net from Outside

The access from outside NAO has to go through the gateway host.

Only SSH access is valid.

1. Login by using SSH to the gateway host 'sshsolar'

```
% ssh sshsolar.nro.nao.ac.jp
```

2. After successful login to sshsolar, login again to the preferable host such as burst1, power etc.

```
burst4% ssh (hostname)
```

(Note: burst4 is the canonical name of sshsolar)

(3) PPP Connection

PPP connection through the telephone line is available.
Contact a manager for the method.

4. Computation Servers

Computation server sx8 (32GFLOPSx2, main memory 32GB) is available.
These servers are operated under job controlling system
by Network Queueing System (NQS II).
Use command 'qsub' for submitting a user job.

Foreground job will run with upper limit of 30min CPU time.

* queues of sx8

Q	Duplex	Priority	maxCPUtime
A	3	high	10 min
B	1		30 min
C	1		3 hr
D	1	low	12 hr

A1. How to Use Various Softwares

(1) Utility

Following utility softwares are available by setting path to '/share/bin'.

- idlh --> IDL with following packages
Nobeyama Software (NoRH, NoRP, NoRS, NoRI), Local Package,
Solar Software(norh norp sxt hxt eit mdi lasco trace nso),

NAOJ-IDL, Magpack2

- mkjavamv --> make JavaScript movie

(2) IDL procedures for local usage

IDL procedures for local usage are under /share/idl_local

(3) Solar Software

"Solar Software" is under /share/ssw

(4) NAOJ-IDL

IDL package for analysis of Mitaka, Norikura, Okayama data under /share/naojidl

(5) Magpack2

Computational package of Three-dimensional magnetic field from magnetogram produced by Prof. Sakurai (NAOJ) under /share/magpack2.

Set command path to /share/magpack2/bin.

(6) IDL Astronomy

/share/idlastron

(7) Numerical Recipes for Fortran

(8) PostScript Type1 Fonts

PFA format /share/font_type1

(9) LaTeX styles

`/share/tex_styles`

These style files are available without any setup
by commands `latex` and `platex` on `burst4`.