Whipple CD writing instructions

Logging in.

CD writing is now done on the computer **pc4.sao.arizona.edu**, an Micron Pentium-II 400 computer, located in the middle room of Tucson offices (its the one connected to the scanner). The first step is to login to the **observer** account.

Collecting the files.

The next step is to gather together all the files that will go onto the CD. This is simply a matter of copying files into the **/scratch/cd/files** directory. This directory is reserved exclusively for writing CDs and you should feel free to delete anything in it. For convenience the egret **/data** and **/home** directories are available directly as **/net/egret/data** and **/net/egret/home** respectively. For example,

```
cd /scratch/cd/files
rm -rf /scratch/cd/files/*                                          Make space.
cp -r /net/egret/data/raw10/d981103 /net/egret/data/raw10/d981104 .  Copy directory contents.
cp -r /net/egret/data/raw10/d981105 .                               And more...
```

There is enough space in the directory for exactly 650Mb of data, but you should stop a few Mb short of this limit as the CD format itself requires some space. You can find out how much space you have used with the following command,

```
du -s /scratch/cd/files
```

Making the CD image.

The next step is to make an image of the CD on the disk. This is done using **mkisofs**

```
cd /scratch/cd
rm -f image
mkisofs -r -o image files/                                          Create the CD image
```

Doing this combines and translates everything in the directory **files** and below into CD (known as ISO9660) format and writes them to disk as the file **image**.

Writing the CD

Once the CD image has been prepared, it can be written to a CD-R. Place a CD in the drive and wait for it to become ready. This takes a few moments as the drive reads the disk. Then you can write the CD using the following command,

```
cdrecord -v speed=2 /scratch/cd/image                               Write the CD
```

While the writing is taking place, you should not use the computer for any other tasks (reading email etc.) as the writing process is liable to be interrupted and the CD ruined. If the writing fails for any reason, i.e., any errors are printed out, you should stop the program (with ctrl-c) and try again with a different CD. You might also like to try a speed option of 1, but be aware that it will take 74 minutes to write 650Mb of data.

To make more than one copy of a CD you can repeat steps 4,5 and 6 as many times as you require.

Testing the CD

When the writing has finished it is worthwhile testing the CD (or at least the first copy). This is done by comparing the contents with the original files which were compiled in step 2. With the CD still in the drive, the following will test each file,

```
mount /mnt/cdwriter                          Mount the CD.
diff -r /mnt/cdwriter /scratch/cd/files      Test all files.
umount /mnt/cdwriter                         Unmount the CD.
```

If there are any differences the CD should be discarded.

Eject the CD.

Remove the CD from the drive by pressing the eject button or typing

```
cdrecord -eject                              Eject the CD.
```

Clean up.

When you have made all the copies of the CD that you require you should clean up the collected files and the image made in steps 2 and 3.

```
rm -rf /scratch/cd/image /scratch/cd/files/*     Clean up.
```