
Subject: 3D velocity vectors

Posted by [adharac](#) on Mon, 12 Apr 2004 19:53:46 GMT

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I have a serious problem.

I am plotting velocity vectors in 3D. The values that I have are very small in comparison to the scaling system. The output that I am getting from the code I wrote, does not show the vectors! Only small dots....I thought it was because of the values that I have. So, I decided to use a factor, but I cannot increase it too much because it will not run. Finally, I decided to multiply every value in Fortran, and then bring my data into IDL. It does not work either!!

Do you think my problem is that my xr, xy, xz is very large compared to the values of vx, vy, vz? But, vx, vy, vz are velocity components and the ranges correspond to location of those vectors in 3D. My goal is mainly to show the flow paths with this vectors. How do you think I can fix my macro?

Thank you in advance,
Adhara

```
openr,q,'vel3.out',/Get_Lun    ;open files for reading
openr,r,'vel2.out',/Get_Lun
openr,s,'vel3.out',/Get_Lun
```

```
;header=' '
;for i = 1, 5 do readf,q,header    ;read header stuff in file VOa.dat
```

```
A=fltarr(6,90*360L)    ;create arrays to hold data in files
B=fltarr(6,90*360L)    ; 'L' indicates use of a long integer
C=fltarr(6,90*360L)
```

```
readf,q,A    ;read files into arrays
readf,r,B
readf,s,C
```

```
Free_Lun,q    ;close files and clear logical unit assigned to each
file
Free_Lun,r
Free_Lun,s
```

```
Vx=fltarr(90,360,360)    ;create 3 dimensional arrays to hold vector
data.
Vy=fltarr(90,360,360)    ;the indices will be Vx(x,y,z)
Vz=fltarr(90,360,360)
```

```
factor = 7
```

For i = 0, 32399L Do Begin ;change here the number of records if needed.

;use a -1 to adjust the values from the files to fit IDL array subscripts

;use a factor to scale the vector value to something more visible on the plot

Vx(A(0,i)-1,A(1,i)-1,A(2,i)-1) = A(3,i)*10.0^factor
Vx(B(0,i)-1,B(1,i)-1,B(2,i)-1) = B(3,i)*10.0^factor
Vx(C(0,i)-1,C(1,i)-1,C(2,i)-1) = C(3,i)*10.0^factor

Vy(A(0,i)-1,A(1,i)-1,A(2,i)-1) = A(4,i)*10.0^factor
Vy(B(0,i)-1,B(1,i)-1,B(2,i)-1) = B(4,i)*10.0^factor
Vy(C(0,i)-1,C(1,i)-1,C(2,i)-1) = C(4,i)*10.0^factor

Vz(A(0,i)-1,A(1,i)-1,A(2,i)-1) = A(5,i)*10.0^factor
Vz(B(0,i)-1,B(1,i)-1,B(2,i)-1) = B(5,i)*10.0^factor
Vz(C(0,i)-1,C(1,i)-1,C(2,i)-1) = C(5,i)*10.0^factor

Endfor

vol = FLTARR(360, 360, 90)
WINDOW, XSIZE = 390, YSIZE = 400

CREATE_VIEW, XMAX = 360, YMAX = 360, ZMAX = 100

Scale3, xr=[0,89], yr=[0,359], zr = [0,359] ;create 3D scaling system

Flow3, Vx, Vy, Vz

End
