
Subject: Reading Multiple .sav files with same variable names for graphing

Posted by [morganlsilverman](#) on Mon, 07 Jul 2014 14:40:58 GMT

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Hello,

I have 9 .sav files each containing a different days data but with the same set of variable names. I am trying to figure out a better method to read each of these files and save the variables to different named arrays or structures so that I can then plot several days of data in the same graph. The method i've been using right now involves a lot of coding (shown below for first 2 files). Is there a better way to do this so that I can then plot multiple arrays from different .save files on the same graph? Thank you.

Sincerely,
Morgan

```
restore, './DAQPadonia_AvgBackTraj_Flight7.sav'
Flight7 = {Avg500Lat: fltarr(73), Avg500Lon: fltarr(73), Avg1000Lat: fltarr(73), Avg1000Lon:
fltarr(73), $
    Avg1500Lat: fltarr(73), Avg1500Lon: fltarr(73), Avg2000Lat: fltarr(73), Avg2000Lon: fltarr(73),
Avg2500Lat: fltarr(73), $
    Avg2500Lon: fltarr(73), Avg3000Lat: fltarr(73), Avg3000Lon: fltarr(73), Avg3500Lat: fltarr(73),
Avg3500Lon: fltarr(73)}
Flight7.Avg500Lat = Avg500Lat
Flight7.Avg500Lon = Avg500Lon
Flight7.Avg1000Lat = Avg1000Lat
Flight7.Avg1000Lon = Avg1000Lon
Flight7.Avg1500Lat = Avg1500Lat
Flight7.Avg1500Lon = Avg1500Lon
Flight7.Avg2000Lat = Avg2000Lat
Flight7.Avg2000Lon = Avg2000Lon
Flight7.Avg2500Lat = Avg2500Lat
Flight7.Avg2500Lon = Avg2500Lon
Flight7.Avg3000Lat = Avg3000Lat
Flight7.Avg3000Lon = Avg3000Lon
Flight7.Avg3500Lat = Avg3500Lat
Flight7.Avg3500Lon = Avg3500Lon
restore, './DAQPadonia_AvgBackTraj_Flight6.sav'
Flight6 = {Avg500Lat: fltarr(73), Avg500Lon: fltarr(73), Avg1000Lat: fltarr(73), Avg1000Lon:
fltarr(73), $
    Avg1500Lat: fltarr(73), Avg1500Lon: fltarr(73), Avg2000Lat: fltarr(73), Avg2000Lon: fltarr(73),
Avg2500Lat: fltarr(73), $
    Avg2500Lon: fltarr(73), Avg3000Lat: fltarr(73), Avg3000Lon: fltarr(73), Avg3500Lat: fltarr(73),
Avg3500Lon: fltarr(73)}
Flight6.Avg500Lat = Avg500Lat
Flight6.Avg500Lon = Avg500Lon
Flight6.Avg1000Lat = Avg1000Lat
Flight6.Avg1000Lon = Avg1000Lon
```

```
Flight6.Avg1500Lat = Avg1500Lat
Flight6.Avg1500Lon = Avg1500Lon
Flight6.Avg2000Lat = Avg2000Lat
Flight6.Avg2000Lon = Avg2000Lon
Flight6.Avg2500Lat = Avg2500Lat
Flight6.Avg2500Lon = Avg2500Lon
Flight6.Avg3000Lat = Avg3000Lat
Flight6.Avg3000Lon = Avg3000Lon
Flight6.Avg3500Lat = Avg3500Lat
Flight6.Avg3500Lon = Avg3500Lon
```

Subject: Re: Reading Multiple .sav files with same variable names for graphing
Posted by [David Fanning](#) on Mon, 07 Jul 2014 14:47:01 GMT
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Morgan Silverman writes:

> I have 9 .sav files each containing a different days data but with the same set of variable names. I am trying to figure out a better method to read each of these files and save the variables to different named arrays or structures so that I can then plot several days of data in the same graph. The method i've been using right now involves a lot of coding (shown below for first 2 files). Is there a better way to do this so that I can then plot multiple arrays from different .save files on the same graph? Thank you.

Typically, things like this are done in a loop. :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>

Seppure ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Reading Multiple .sav files with same variable names for graphing
Posted by [morganlsilverman](#) on Mon, 07 Jul 2014 15:11:09 GMT
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On Monday, July 7, 2014 10:47:01 AM UTC-4, David Fanning wrote:

> Morgan Silverman writes:

>

>

>

>> I have 9 .sav files each containing a different days data but with the same set of variable

names. I am trying to figure out a better method to read each of these files and save the variables to different named arrays or structures so that I can then plot several days of data in the same graph. The method i've been using right now involves a lot of coding (shown below for first 2 files). Is there a better way to do this so that I can then plot multiple arrays from

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> Cheers,
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> David
>
> --
>
> David Fanning, Ph.D.
>
> Fanning Software Consulting, Inc.
>
> Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
>
> Sepore ma de ni thue. ("Perhaps thou speakest truth.")
```

Right, of course :-) I started creating a loop but ran into trouble when I wanted to rename the structure or variables each loop iteration. I tried doing something like the following but run into trouble creating the temp variable name to use for each new structure and then using it. How do I create a new named structure or array each loop?

```
for i=0,0 do begin
  flightnum = [5,10,14,4,8,11,2,6,7]
  flight = flightnum(i)
  restore, './DAQPadonia_AvgBackTraj_Flight'+strtrim(flight,2)+'_sav'
  temp = 'Flight'+strtrim(i,2)
  temp = {Avg500Lat: fltarr(73), Avg500Lon: fltarr(73), Avg1000Lat: fltarr(73), Avg1000Lon:
  fltarr(73), $
    Avg1500Lat: fltarr(73), Avg1500Lon: fltarr(73), Avg2000Lat: fltarr(73), Avg2000Lon: fltarr(73)}
  Flight5.Avg500Lat = Avg500Lat
```

Subject: Re: Reading Multiple .sav files with same variable names for graphing
Posted by [David Fanning](#) on Mon, 07 Jul 2014 15:15:10 GMT

Morgan Silverman writes:

> Right, of course :-) I started creating a loop but ran into trouble when I wanted to rename the structure or variables each loop iteration. I tried doing something like the following but run into trouble creating the temp variable name to use for each new structure and then using it. How do I create a new named structure or array each loop?

>

Off the top of my head, I can't think of any reason why you would NEED a structure if you are doing this in a loop.

If you need the variables for later, just make an array of structures:

```
struct = {...}  
varStructs = Replicate(struct, n)
```

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>

Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Reading Multiple .sav files with same variable names for graphing
Posted by [Russell Ryan](#) on Wed, 09 Jul 2014 15:02:47 GMT

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Why not use the IDL_Savefile object?

http://www.exelisvis.com/docs/idl_savefile.html#objects_misc_904195448_1076956

I can show examples if that helps?

R

On Monday, July 7, 2014 10:40:58 AM UTC-4, Morgan Silverman wrote:

> Hello,

>

>

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> I have 9 .sav files each containing a different days data but with the same set of variable names. I am trying to figure out a better method to read each of these files and save the variables to different named arrays or structures so that I can then plot several days of data in the same graph. The method i've been using right now involves a lot of coding (shown below for first 2 files). Is there a better way to do this so that I can then plot multiple arrays from different .save files on the same graph? Thank you.

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> Sincerely,
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> Morgan
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>
> restore, './DAQPadonia_AvgBackTraj_Flight7.sav'
>
> Flight7 = {Avg500Lat: fltarr(73), Avg500Lon: fltarr(73), Avg1000Lat: fltarr(73), Avg1000Lon:
fltarr(73), $
>
>   Avg1500Lat: fltarr(73), Avg1500Lon: fltarr(73), Avg2000Lat: fltarr(73), Avg2000Lon: fltarr(73),
Avg2500Lat: fltarr(73), $
>
>   Avg2500Lon: fltarr(73), Avg3000Lat: fltarr(73), Avg3000Lon: fltarr(73), Avg3500Lat: fltarr(73),
Avg3500Lon: fltarr(73)}
>
> Flight7.Avg500Lat = Avg500Lat
>
> Flight7.Avg500Lon = Avg500Lon
>
> Flight7.Avg1000Lat = Avg1000Lat
>
> Flight7.Avg1000Lon = Avg1000Lon
>
> Flight7.Avg1500Lat = Avg1500Lat
>
> Flight7.Avg1500Lon = Avg1500Lon
>
> Flight7.Avg2000Lat = Avg2000Lat
>
> Flight7.Avg2000Lon = Avg2000Lon
>
> Flight7.Avg2500Lat = Avg2500Lat
>
> Flight7.Avg2500Lon = Avg2500Lon
>
> Flight7.Avg3000Lat = Avg3000Lat
>
```

```
> Flight7.Avg3000Lon = Avg3000Lon
>
> Flight7.Avg3500Lat = Avg3500Lat
>
> Flight7.Avg3500Lon = Avg3500Lon
>
> restore, './DAQPadonia_AvgBackTraj_Flight6.sav'
>
> Flight6 = {Avg500Lat: fltarr(73), Avg500Lon: fltarr(73), Avg1000Lat: fltarr(73), Avg1000Lon:
fltarr(73), $
>
>   Avg1500Lat: fltarr(73), Avg1500Lon: fltarr(73), Avg2000Lat: fltarr(73), Avg2000Lon: fltarr(73),
Avg2500Lat: fltarr(73), $
>
>   Avg2500Lon: fltarr(73), Avg3000Lat: fltarr(73), Avg3000Lon: fltarr(73), Avg3500Lat: fltarr(73),
Avg3500Lon: fltarr(73)}
>
> Flight6.Avg500Lat = Avg500Lat
>
> Flight6.Avg500Lon = Avg500Lon
>
> Flight6.Avg1000Lat = Avg1000Lat
>
> Flight6.Avg1000Lon = Avg1000Lon
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> Flight6.Avg1500Lat = Avg1500Lat
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> Flight6.Avg1500Lon = Avg1500Lon
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> Flight6.Avg2000Lat = Avg2000Lat
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> Flight6.Avg2000Lon = Avg2000Lon
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> Flight6.Avg2500Lat = Avg2500Lat
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> Flight6.Avg2500Lon = Avg2500Lon
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> Flight6.Avg3000Lat = Avg3000Lat
>
> Flight6.Avg3000Lon = Avg3000Lon
>
> Flight6.Avg3500Lat = Avg3500Lat
>
> Flight6.Avg3500Lon = Avg3500Lon
```
