
Subject: Need help combining LSODE with newton
Posted by [msp](#) on Wed, 26 Jan 2005 13:35:51 GMT
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Hi

My local guru can't help me with this, so I was hoping one of you could.

I am trying to solve a set of differential equations using the "newton" procedure to solve for the proper boundary conditions and LSODE to advance the solution (shooting to a fitting point). To use newton I have written the required function (called Vecfunc in the reference guide) returning values for the equations newton is supposed to solve. So far things are working fine, but whenever I try to call LSODE in this function I get the error message below whether or not I actually use the results from LSODE:

```
% NEWTON: File expression not allowed in this context: <No name>.
```

Can anyone explain why this happens and how to avoid it. Any help at all will be much appreciated. I have included a simple version of what I am trying to do below. Note that I am not actually using the result of LSODE here, just calling it.

Thanks
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```
FUNCTION derivs,X,Y  
RETURN, [1.,1.,1.,1.]  
END
```

```
FUNCTION newtfunc, X  
H=1  
Y=[1.,2.,3.,4.]  
test=LSODE(Y,0.0,H,'derivs')  
print,Y,test  
RETURN, [X[0] + X[1] - 3, X[0]^2 + X[1]^2 - 9]  
END
```

```
PRO NEWTtest  
X = [1.0, 5.0]  
Y = NEWTON(X, 'newtfunc')  
PRINT, 'For X=[1.0, 5.0], result = ', Y  
END
```
