Subject: how to stop integration in IMSL_ODE ?
Posted by christophe petit on Thu, 11 Nov 2010 15:05:06 GMT

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Good morning,

i have a problem using the IMSL_ODE routine. I would like this routine
to stop to integrate when the solution y(t) becomes negative. For the
moment, i can't make it to stop and after reaching the last positve
solution step, i have got the following error :

"IMSL Error: IMSL_ODE: Fatal error: MATH_REPEATED_ERR_TEST_FAILURE:
After
   some initial success, the integration was halted by repeated error
test
   failures."

I tried to use a catch block in this way :

```
...
CATCH, Error_status
 if Error_status ne 0 then begin
     CATCH, /CANCEL
     PRINT, 'Error message: ', !ERROR_STATE.MSG
     print, 'the integration is stopped '
     plot, t, result(0,*)
     return
  ENDIF

 result=IMSL_ODE(t,init,'f',hinit=1d-15,max_steps=n_max,toler ance=1d-15,/
double,method=1)

....
```

But at the execution, it says that it doesn't know "result" variable
when i call "plot, t, result(0,*)" in the catch block (to plot the
y(t) solution)

It seems that the "result" variable values are destroyed if the
IMSL_ODE routine encounters an error.

How can i make the routine to stop the integration and in the same
time, save the "result" values which have been processed before the
error ?

Thanks in advance.