Subject: Re: Pass variables into Newton or BROYDEN for solving non-linear equations
Posted by Zhang Bo on Tue, 18 Oct 2011 01:10:50 GMT
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On Oct 17, 7:13 pm, Beaker <mattjamesfran...@gmail.com> wrote:
> On Oct 18, 6:24 am, Zhang Bo <bzhang20071...@gmail.com> wrote:
>
>> I have a non-linear equations system to solve in every loop step. I
>> have 4 equations with 8 variables. 4 of the variables are known and
>> calculated in each loop. I cannot find a way to pass the known
>> variables(which are different in each loop) into a BROYDEN or NEWTON
>> function to solve the system. If I put all 8 variables as input guess,
>> it won't calculate for me because there are 8 variables and 4
>> equations. I kind of stuck here.
>
> When I encountered a similiar issue using AMOEBA, the only solution I
> could see was to cover myself with garlic and use a COMMON block. I
> set the extra variables I want to send to each call before making that
> call and have the COMMON block visible from within the user defined
> function you send to NEWTON or whatever.
>
> Does that make sense?

Like this?

```
  common lclinput, A, B, C, D
  A = ****
  B = ****
  C = ****
  D = ****
  X = [250, 20, 6.2, 750]
  Result = broyden(X,'lcl')

FUNCTION LCL, X
  COMMON lclinput, A, B, C, D

  return, [X[0]-T_s*(X[1]/P_s)^(287/cp_s),$
    X[2] - X[3]*Mmr_s/(0.622+Mmr_s),$
    X[1]-26.66082+alog(X[1]),$
    X[0] - (X[1]-sqrt(X[1]^2-223.1986))/0.0182758048]
END
```