Subject: Optimization "AMOEBA"
Posted by Nicki on Fri, 18 Sep 2009 09:53:29 GMT
View Forum Message <> Reply to Message

Hey!

I need some help with amoeba (i'm a total IDL beginner...). For a start (get to understand how it works) I want to solve a pretty simple, 1-dim. problem. I'm having a parabola -x^2+4x+9 and I want to get the maximum with the help of AMOEBA. How do I do that? (Let's say starting point P0=5 and scale is 4).
This is what it looks like now:

```
FUNCTION FUNC, P
x=P[0]
y=-x^2.+4.*x+5.
ydes=9.1
RETURN, MIN(ydes^2-y^2)
END

R=AMOEBA(1.0e-1, SCALE=5, P0=0.05, FUNCTION_VALUE=fval)

PRINT, 'x_Value:', r, $
'error:', fval[0]

END
```

As a result i get for the x_value -1 and for the error - Inf.... But why?! I mean the maximum of the function is at x=2 and this is within the scale...
Maybe somebody can give me some help

Subject: Re: Optimization "AMOEBA"
Posted by fburton on Thu, 24 Sep 2009 15:29:07 GMT
View Forum Message <> Reply to Message

In article <f9vmb5df6vo5nr5d87gugcqk4l0vhc8qk9@4ax.com>,
Wox <spam@nomail.com> wrote:
>> I thought about trying powell as well...maybe i should do this...what
>> would be the advantages of powell?
>
> Well, downhill simplex is not an efficient method, but if speed is not
> an issue than you can use it just as well I suppose...

Some comment on pros and cons of 'downhill simplex' (including

convergence) here:

http://www.scholarpedia.org/article/Nelder-Mead_algorithm

Francis