Subject: Re: L-moments
Posted by Gray on Mon, 28 Feb 2011 12:13:58 GMT
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On Feb 28, 6:43 am, chris <rog...@googlemail.com> wrote:
> On 25 Feb., 16:25, Mark Shephard <mark.w.sheph...@gmail.com> wrote:
>
>> Hi,
>
>> I was wondering if anyone has anyone develope IDL routines for the
>> method of L-moments?
>
>> Thanks,
>> Mark
>
> Hi Mark,
> something like this?
>
> function cr_binomial,n,m
> n1=1d & m1=1d & n1m1=1d
> for i=1d,n do n1*=i
> for i=1d,m do m1*=i
> for i=1d,(n-m) do n1m1*=i
> return,n1/(m1*n1m1)
> end
>
> function cr_l_moment,dat
> n=n_elements(dat)
> l1 = total(dat,/double)/cr_binomial(n,1)
> l2=0d &l3=0d &l4=0d
> for i=1d,n do begin
> b1 = cr_binomial(i-1,1d)
> b2 = cr_binomial(n-i,1d)
> b3 = cr_binomial(i-1,2d)
> b4 = cr_binomial(n-i,2d)
> b5 = cr_binomial(i-1,3d)
> b6 = cr_binomial(n-i,3d)
> l2+=(b1-b2)*dat[i-1l]
> l3+=(b3-2*b1*b2+b4)*dat[i-1l]
> l4+=(b5-3*b3*b2+3*b1*b4+b6)*dat[i-1l]
> endfor
> l2*=0.5d /cr_binomial(n,2d)
> l3*=(1d / 3d)/cr_binomial(n,3d)
> l4*=(1d / 4d)/cr_binomial(n,4d)
> return,{l1:l2,l2:l2,l3:l3,l4:l4}
> end
>
> IDL> r=randomu(seed,5,5)

> IDL> inf=cr_l_moment(r)
> IDL> print,float(inf)
> { -0.000558181 -0.000558181 -0.0111168 0.212071}
>
> Cheers
>
> CR

I have no idea what L-moments are, but do you really need to use all
the FOR-loops?

```
function cr_binomial,n,m
  n1 = product(dindgen(n)+1)
  m1 = product(dindgen(m)+1)
  n1m1 = product(dindgen(n-m)+1)
  return, n1/(m1*n1m1)
end
```