Subject: Re: code for Kendall trend test
Posted by txomingo99 on Thu, 24 Jan 2008 00:01:39 GMT
View Forum Message <> Reply to Message

Thank you very much, Robinson. This is really helpful!!!.
Anyway, I've been comparing the results with those from the equivalent test in S-Plus and they are slightly different. I've two questions. I didn't manage to know where the p-value is calculated/stored and how to calculate the Confidence interval.
Thanks again! I'm very grateful.
Domingo.

On Jan 22, 1:10 pm, robinson....@gmail.com wrote:
> it can help you
>
> =========
> function mkstrend,x,undef=undef
>
> ;It uses the non parametric mann-kendal (mk) statistics to determine
> if there
> ;is (or not) a signifcant trend 95%. The slope is calcu-
> ;lated by using the Sen's method(s). S is robust and less affected by
> ;outliers (sen p.k. 1968, ASAJ).
> ;ex. sl=mkstrend(x,undef=-999.).
> ; where x is your ts: x=[0.5, 0.1, 0.2, 0.1, 0.3]
> ; no slope then sl=undef. if the ts has one nan: sl=undef
>
> if total(finite(x,/nan)) eq 0 then begin
>
> x=float(x)
> nx=n_elements(x)
> nx1=nx-1.
> n=nx*(nx-1)/2. ; The number of elements in d
> d=fltarr(n)
> m=0.
>
> for i=0,nx1-1 do begin
>
> for j=i+1,nx-1 do begin
>
> d(m)=x(j)-x(i)
> m=m+1
>
> endfor
>
> endfor
>
> for i=0L,n-1 do begin

```
>
>     if d(i) lt 0 then d(i)=-1.
>     if d(i) eq 0 then d(i)= 0.
>     if d(i) gt 0 then d(i)= 1.
>
>   endfor
>
>   s=total(d)
>
>   U=x(uniq(x(sort(x))))
>   Corr=0       ;Correction for tied observations (equal value)
>
>   for y=0,n_elements(U)-1 do begin
>
>     find=where(x eq U(y))
>     uj=n_elements(find)
>     Corr=Corr+uj*(uj-1)*(2*uj+5)
>
>   endfor
>
>   Vs=(nx*(nx-1.)*(2*nx+5.)-Corr)/18.   ;For long series it is
> necessary to use the whole
>                                ;eq. 2.6 (Corr) (Sen p.k. 1968,
> ASAJ)
>
>   if s gt 0. then z=(s-1)/sqrt(Vs)
>   if s lt 0. then z=(s+1)/sqrt(Vs)
>   if s eq 0. then z=0.
>
>   nor=gauss_cvf(0.025)  ; Prob at 95% (two-side)
>
>   ;The slope
>
>   Sn=fltarr(n)
>   m=0.
>
>   for i=0,nx1-1 do begin
>
>     for j=i+1,nx-1 do begin
>
>         Sn(m)=(x(i)-x(j))/(i-j)
>         m=m+1
>
>     endfor
>
>   endfor
>
>   Snsorted=Sn(sort(Sn))
```

```
>    m=float(fix(n/2.))
>
>    if abs(z) lt nor then begin
>
>      slope=undef
>
>    endif else begin
>
>        if 2*m eq n then slope=0.5*(Snsorted(m)+Snsorted(m+1))
>        if 2*m+1. eq n then slope=Snsorted(m+1)
>
>    endelse
>
>  endif else begin
>
>     slope=undef
>
>  endelse
>
>  return, slope
>
>  end
>
>  ========
>  Robinson
>
>  On Jan 21, 4:46 pm, txoming...@gmail.com wrote:
>
>
>
>>  Hi folks,
>
>>  Does any one have or know a place to find free code in IDL to compute
>>  the Mann-Kendall trend test and the seasonal Kendall trend test?
>
>>  Thanks a lot,
>
>>  Domingo- Hide quoted text -
>
>  - Show quoted text -
```