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Subject: Re: unwrap modulo 2pi  
Posted by [Wim Bouwman](#) on Thu, 08 Feb 2001 09:13:28 GMT  
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In the following bit of code the measured phase P is unwrapped onto CALCPHi.

This is done by doing a 2nd order extrapolation of the three previous points. It works when the jumps are not too extreme.

;Correct Phi and PhiOne for 2Pi jumps. The calculated Phi is compared to  
;the experimentally obtained Phi. Extrapolation with least squares fit.

```
NPhi=N_ELEMENTS(P)
CALCphi=DBLARR(NPhi)
FOR i=3,(NPhi-1) DO BEGIN
  CALCphi(i)=(-2*P(i-3)+P(i-2)+4*P(i-1))/3
  Njumps=NINT((CALCphi(i)-P(i))/(2*!DPi), /Long)
  P(i)=P(i)+Njumps*2*!DPi
ENDFOR
```

graham\_wilson@my-deja.com wrote:

```
> IDL> a=[2,4,6,8,10,12]
> IDL> a=[2.,4.,6.,8.,10.,12.]
> IDL> b=2*!PI
> IDL> c=a mod b
> IDL> print, c
>    2.00000 4.00000 6.00000 1.71681 3.71681 5.71681
>
> What I mean by 'unwrapping' is: Given I know 'c' and 'b' how do I
> explicitly find a?
```

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