SMM C/P 1980 DOY224   51 +/- 1 degrees

height = h + velocity*time   # data points =   6

Back Edge of Wisp ᴸᵒᵒᵖ [Irregular Material]
angular velocity=0.335E-04 [radians/sec]   (Prom?)
      S=SMM   M=MK3   P=PMON

SMM & MK3 - CORRECTED TIMES

height [solar radii]

6.00
5.50
5.00
4.50
4.00
3.50
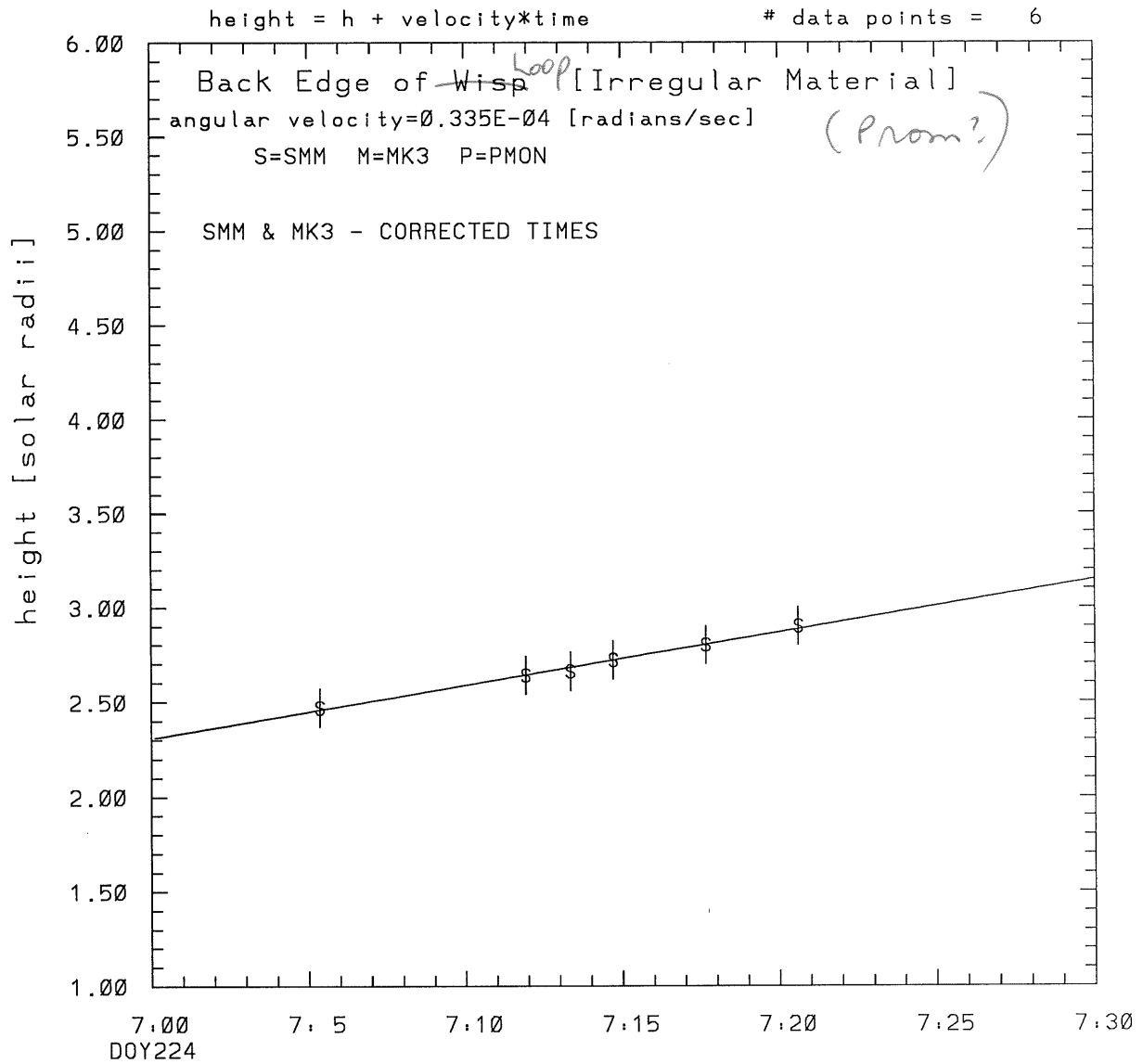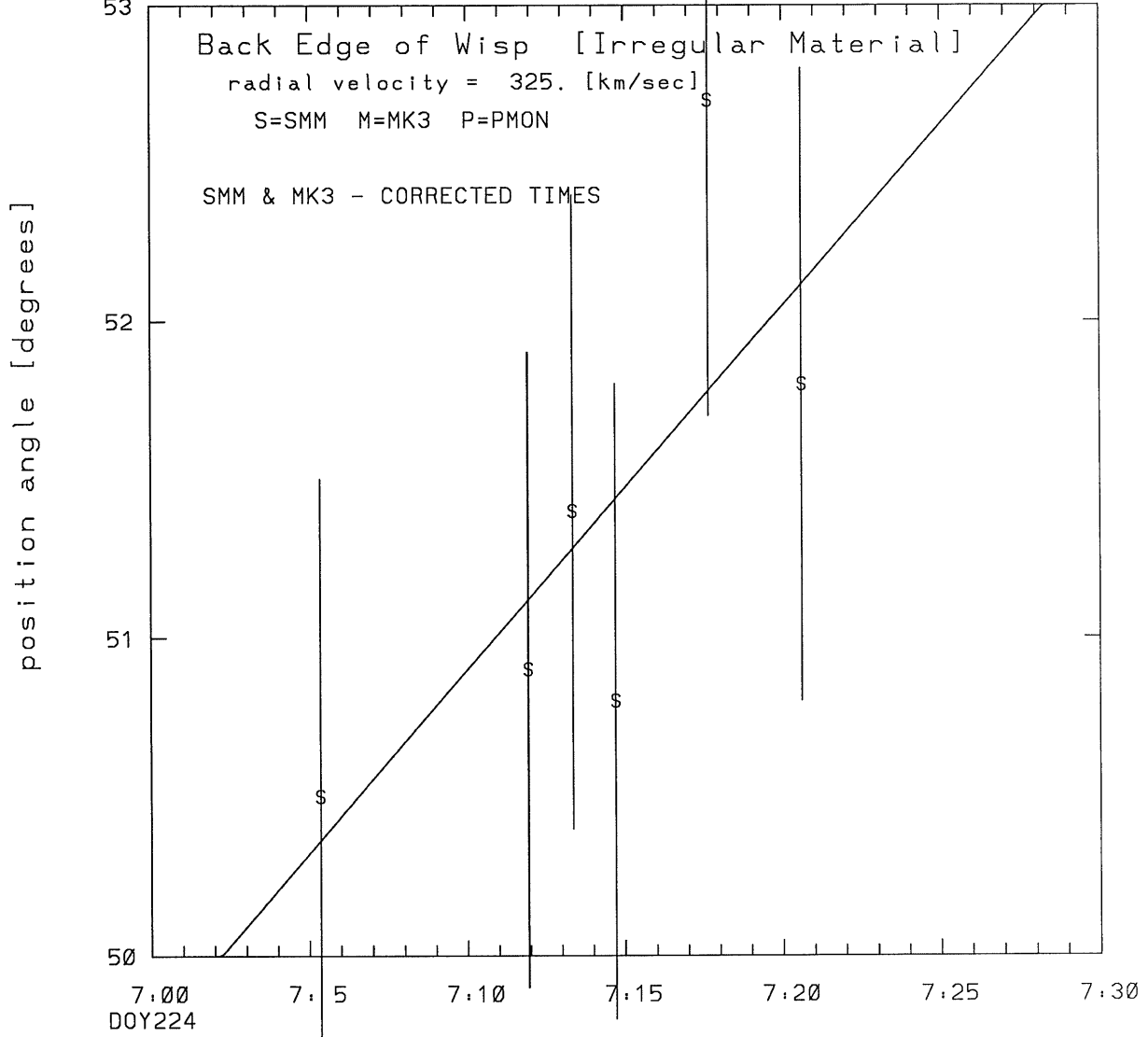3.00
2.50
2.00
1.50
1.00

7:00   7:5   7:10   7:15   7:20   7:25   7:30
DOY224

tstart=DOY224 6:15 +/-   0.4 [min.]
radial velocity= 325. +/- 13. [km/sec]

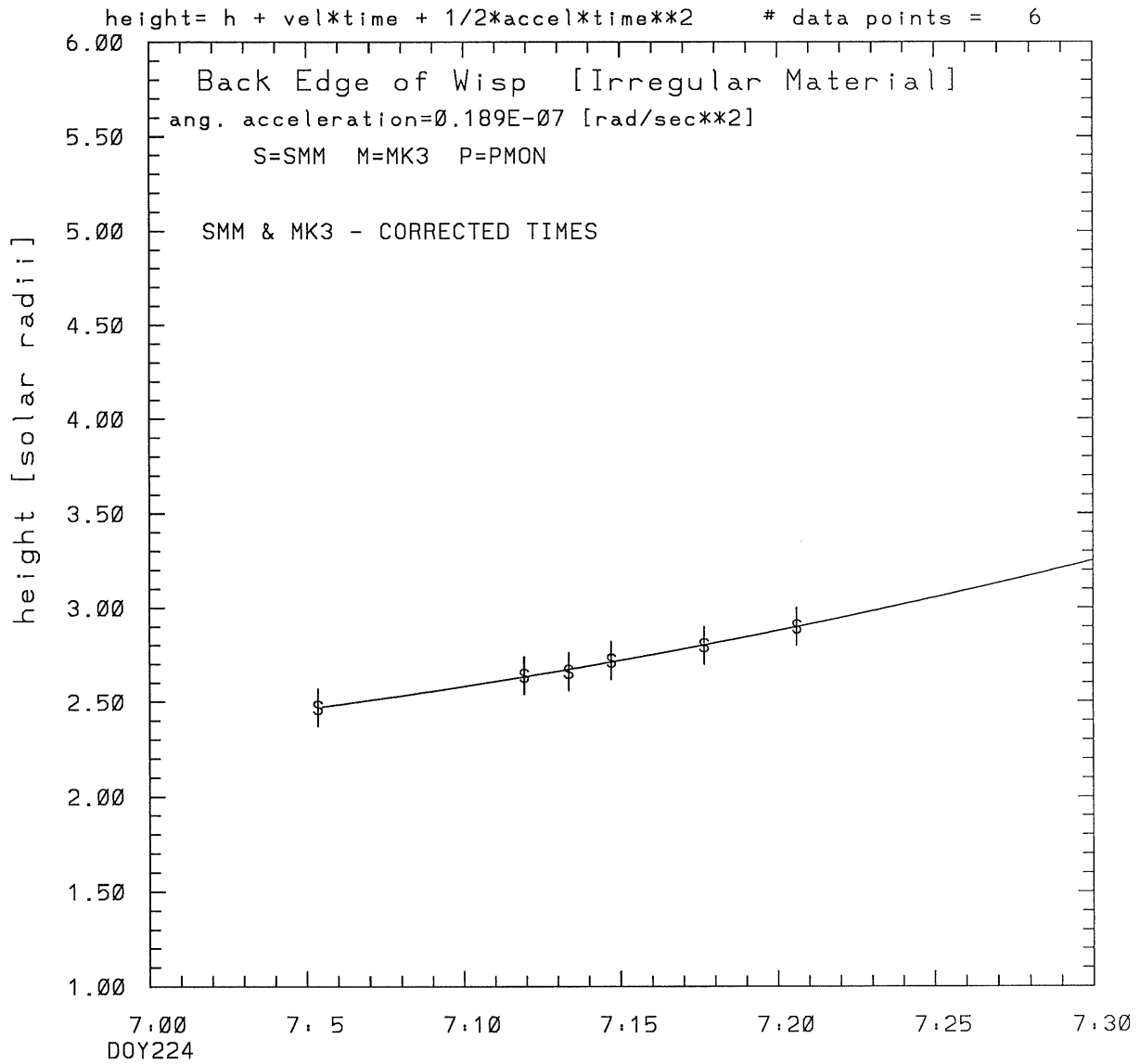# SMM C/P 1980 DOY224 51 +/- 1 degrees

angle= initial angle + angular velocity*time   # data points = 6

Back Edge of Wisp [Irregular Material]
radial velocity = 325. [km/sec]
S=SMM M=MK3 P=PMON

SMM & MK3 - CORRECTED TIMES

position angle [degrees]

53

52

51

50

7:00   7:5   7:10   7:15   7:20   7:25   7:30
DOY224

tstart=DOY224 6:15 +/-   0.4 [min.]
angular velocity=0.335E-04 +/- 0.133E-04 [rad/sec]

SMM C/P 1980 DOY224   51 +/-   1 degrees

height= h + vel*time + 1/2*accel*time**2   # data points =   6

Back Edge of Wisp [Irregular Material]
ang. acceleration=0.189E-07 [rad/sec**2]
        S=SMM   M=MK3   P=PMON

SMM & MK3 - CORRECTED TIMES

height [solar radii]

tstart=DOY224 6:37   from derivative=0
Event begins at   2.15 Solar Radii
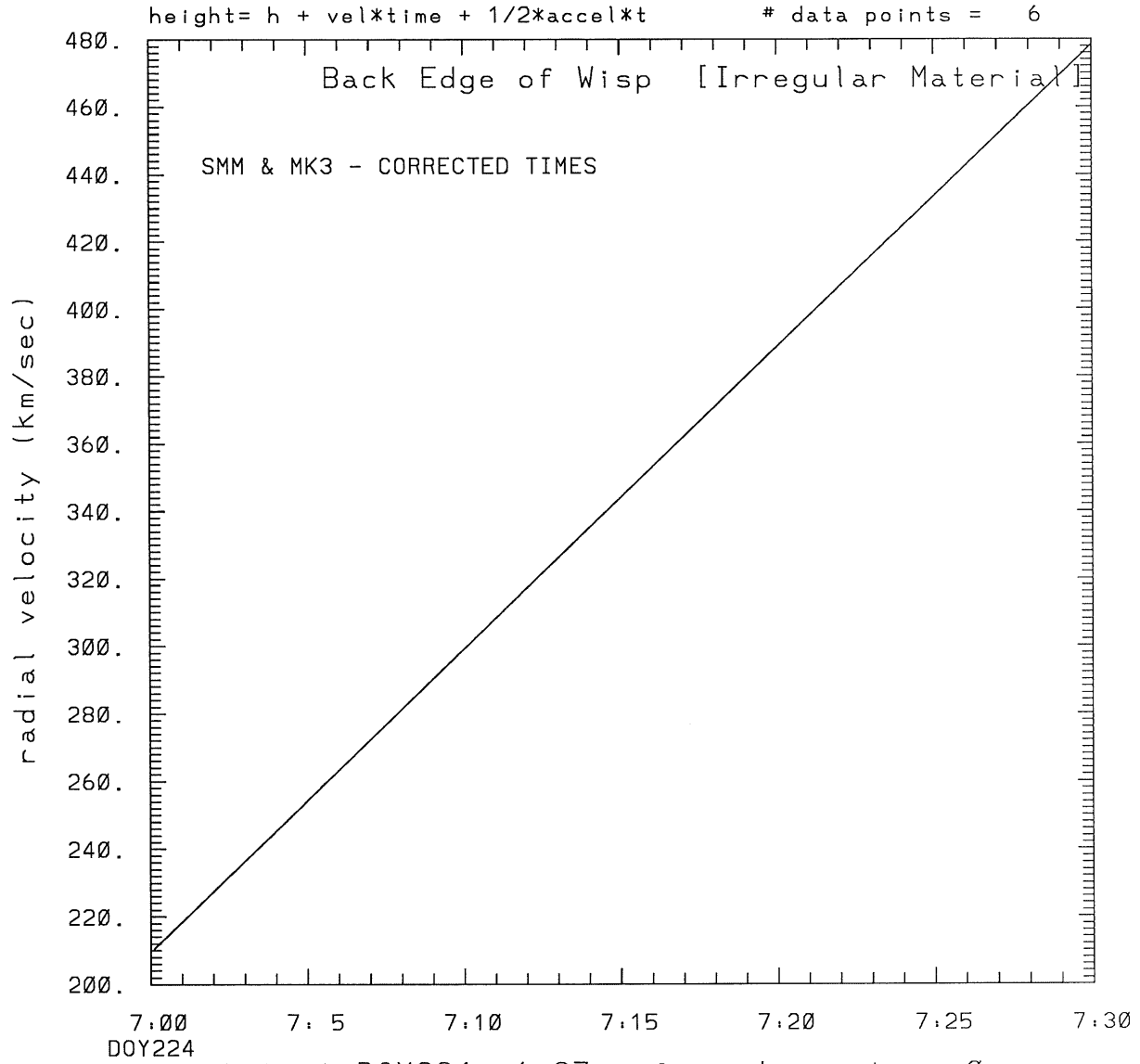radial acceleration= 0.1494 +/- 0.0513 [km/sec**2]

SMM C/P 1980 DOY224   51 +/-   1 degrees

angle= initial angle + angular velocity*time
         + 1/2 angular acceleration*time**2   # data points =   6

Back Edge of Wisp [Irregular Material]
radial acceleration=0.149E+00 km/sec**2
        S=SMM   M=MK3   P=PMON

SMM & MK3 - CORRECTED TIMES

position angle [degrees]

53

52

51

50

7:00   7:05   7:10   7:15   7:20   7:25   7:30
DOY224

tstart=DOY224 6:37   from derivative=0
angular acceleration=0.189E-07 +/-0.929E-07 [rad/sec**2]

SMM C/P 1980 DOY224   51 +/- 1 degrees

height= h + vel*time + 1/2*accel*t   # data points =   6

Back Edge of Wisp [Irregular Material]

SMM & MK3 - CORRECTED TIMES

480.
460.
440.
420.
400.
380.
360.
340.
320.
300.
280.
260.
240.
220.
200.

radial velocity (km/sec)

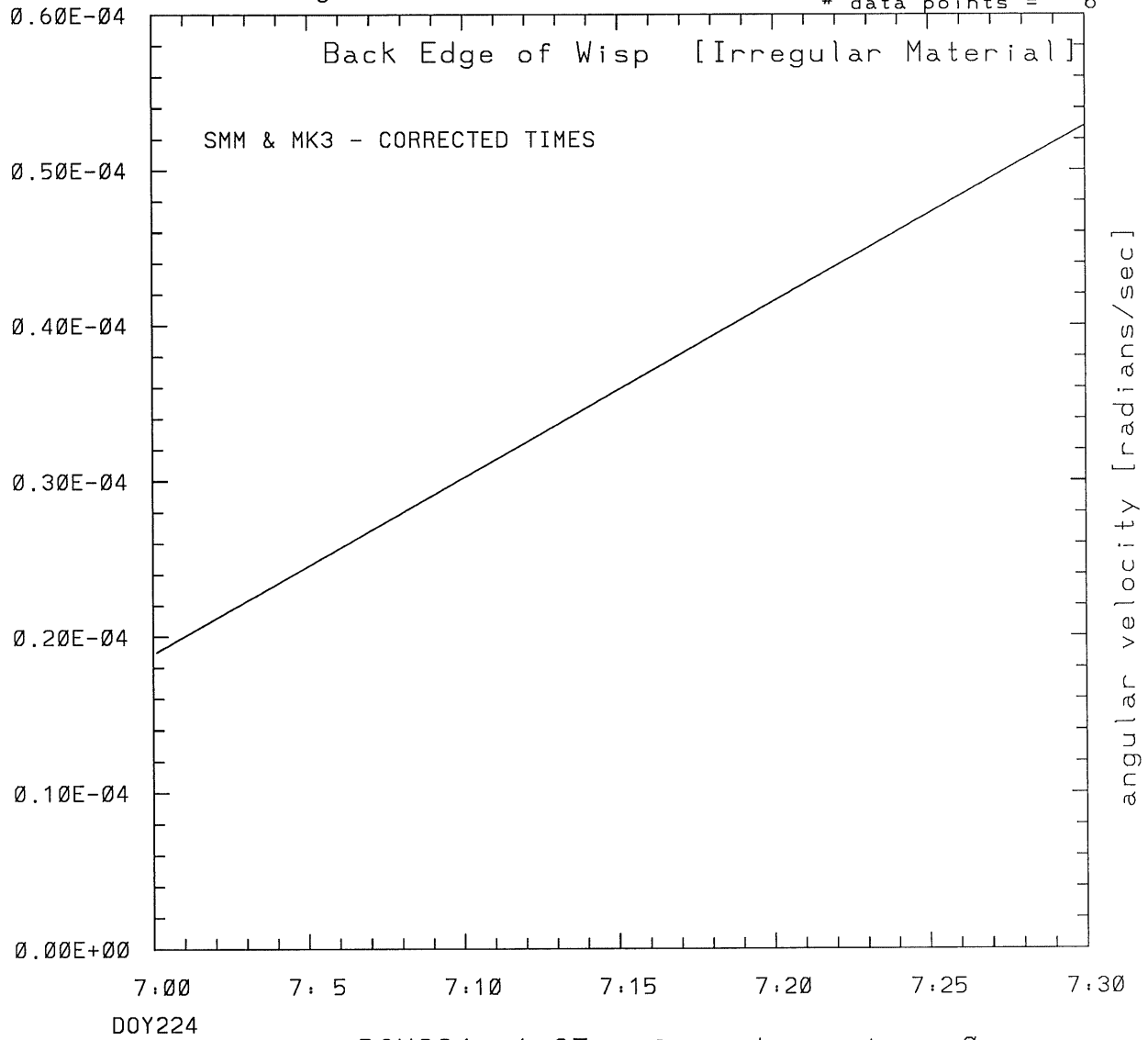7:00   7: 5   7:10   7:15   7:20   7:25   7:30
DOY224

tstart=DOY224 6:37   from derivative=0
Event begins at   2.15 Solar Radii
radial acceleration=0.149E+00 km/sec**2

SMM C/P 1980 DOY224   51 +/- 1 degrees

angle= initial angle + angular velocity*time +
       1/2 angular acceleration*time**2

data points =   6

0.60E-04

Back Edge of Wisp [Irregular Material]

SMM & MK3 - CORRECTED TIMES

0.50E-04

0.40E-04

0.30E-04

0.20E-04

0.10E-04

0.00E+00

7:00   7: 5   7:10   7:15   7:20   7:25   7:30

DOY224

angular velocity [radians/sec]

tstart=DOY224 6:37   from derivative=0
angular acceleration=0.189E-07 +/-
       0.929E-07 [rad/sec**2]

```
*********************
 This is a 1 order run
*********************

*******
 INPUT:
*******

                                     error in        error in
 year doy     time      radii   radius     angle    angle    datatype
 1980 224   7: 5:21   2.47 +/- 0.10     50.5 +/-  1.0      SMM
 1980 224   7:11:56   2.64 +/- 0.10     50.9 +/-  1.0      SMM
 1980 224   7:13:21   2.66 +/- 0.10     51.4 +/-  1.0      SMM
 1980 224   7:14:43   2.72 +/- 0.10     50.8 +/-  1.0      SMM
 1980 224   7:17:40   2.80 +/- 0.10     52.7 +/-  1.0      SMM
 1980 224   7:20:37   2.90 +/- 0.10     51.8 +/-  1.0      SMM


 *******************************************
 Structure being measured:
 Back Edge of Wisp  (Irregular Material)
 *******************************************

********
 OUTPUT:
********

START TIME:

 Event began at t = 0 + -0.467E+02 +/-  0.448E+00 [minutes]
 In more convenient units:
 Event began at DOY 224  6:15 +/-  0.448E+00 [minutes]

 Origin defined at DOY224  7: 0

RADIAL INFORMATION:

RADIAL VELOCITY =    325. +/-     13. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

 c(1) =    0.231E+01 +/-    0.164E-01 [solar radii]
 c(2) =    0.280E-01 +/-    0.111E-02 [radii/min]
 c(2) =    0.325E+03 +/-    0.129E+02 [km/sec]
 c(3) =    0.000E+00 +/-    0.000E+00 [radii/min**2]
 c(3) =    0.000E+00 +/-    0.000E+00 [km/sec**2]


 The computed ERRORS in coefficients [BEVINGTON] are:

                 error in c(1)=  0.18368E-01 [radii] see Bevington pg. 114
                 error in c(2)=  0.12464E-02 [radii/min] see Bevington pg. 114
ANGULAR INFORMATION:

ANGULAR VELOCITY =  0.3346E-04 +/-    0.1332E-04[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

 a(1) = 50. +/-    1. [degrees]
 a(2) =    0.115E+00 +/-    0.458E-01 [degrees/min]
 a(2) =    0.335E-04 +/-    0.133E-04 [rad/sec]
 a(3) =    0.000E+00 +/-    0.000E+00 [degrees/min**2]
 a(3) =    0.000E+00 +/-    0.000E+00 [rad/sec**2]

The RADIAL velocity at  7: 5 =  325. km/sec

The RADIAL velocity at  7:11 =  325. km/sec
```

The RADIAL velocity at   7:13 =   325. km/sec

The RADIAL velocity at   7:14 =   325. km/sec

The RADIAL velocity at   7:17 =   325. km/sec

The RADIAL velocity at   7:20 =   325. km/sec

****
 The following info is for estimating goodness of the fit
****

 Fit is ok [ier=1]

Standard Deviation in the height = 0.15
Standard Deviation in start time measurement =   0.478E+01
Error in time =   0.10428E+01 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.171E-03
Reduced Chi Squared = 0.729E-03
Chi Squared = 0.292E-02
The probability for exceeding chi square = 0.100E+01

The correlation coefficient =   0.996E+00
The probability that no LINEAR correlation exists between the variables =   0.2332]
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

```
**********************
 This is a 2 order run
**********************

*******
 INPUT:
*******


                                error in          error in
year doy      time     radii    radius      angle   angle     datatype
1980 224    7: 5:21   2.47 +/- 0.10       50.5 +/-  1.0         SMM
1980 224    7:11:56   2.64 +/- 0.10       50.9 +/-  1.0         SMM
1980 224    7:13:21   2.66 +/- 0.10       51.4 +/-  1.0         SMM
1980 224    7:14:43   2.72 +/- 0.10       50.8 +/-  1.0         SMM
1980 224    7:17:40   2.80 +/- 0.10       52.7 +/-  1.0         SMM
1980 224    7:20:37   2.90 +/- 0.10       51.8 +/-  1.0         SMM


*******************************************
 Structure being measured:
Back Edge of Wisp  (Irregular Material)
*******************************************

********
 OUTPUT:
********


START TIME:

 tstart=DOY224  6:37 from derivative = 0
Event begins at   2.15 Solar Radii
 Origin defined at DOY224  7: 0

RADIAL INFORMATION:

RADIAL ACCELERATION =  0.149E+00 +/-  0.513E-01 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

  c(1) =      0.236E+01 +/-      0.215E-01 [solar radii]
  c(2) =      0.181E-01 +/-      0.349E-02 [radii/min]
  c(2) =      0.209E+03 +/-      0.405E+02 [km/sec]
  c(3) =      0.386E-03 +/-      0.133E-03 [radii/min**2]
  c(3) =      0.149E+00 +/-      0.513E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

    Approximate error in c(1) =  0.24836E-01 [radii] Bevington pg 154 (8-30)
          Exact error in c(1) =  0.33506E-02 [radii] Bevington pg 154 (8-28)
    Approximate error in c(2) =  0.40313E-02 [radii/min] Bevington pg 154 (8-30)
          Exact error in c(2) =  0.78408E-03 [radii/min] Bevington pg 154 (8-28)
    Approximate error in c(3) =  0.15331E-03 [radii/min**2] Bevington pg 154 (8-30)
          Exact error in c(3) =  0.30428E-04 [radii/min**2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION=  0.1889E-07 +/-   0.9290E-07[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

  a(1) =   50. +/-    2. [degrees]
  a(2) =      0.649E-01 +/-      0.252E+00 [degrees/min]
  a(2) =      0.189E-04 +/-      0.733E-04 [rad/sec]
  a(3) =      0.195E-02 +/-      0.958E-02 [degrees/min**2]
  a(3) =      0.189E-07 +/-      0.929E-07 [rad/sec**2]

The RADIAL velocity at  7: 5 =  257. km/sec
```

The RADIAL velocity at   7:11 =   316. km/sec

The RADIAL velocity at   7:13 =   329. km/sec

The RADIAL velocity at   7:14 =   341. km/sec

The RADIAL velocity at   7:17 =   368. km/sec

The RADIAL velocity at   7:20 =   394. km/sec


```
*********************************************************
 The following info is for estimating goodness of the fit
*********************************************************
```

Fit is ok [ier=1]

Standard Deviation in the height = 0.15
Standard Deviation in start time measurement =   0.478E+01
Value of reduced Chi Squared returned from nllst2 = 0.684E-04
Reduced Chi Squared = 0.283E-03
Chi Squared = 0.849E-03
The probability for exceeding chi square = 0.100E+01

For a second order fit 3 correlation coefficients are given:
  (Using equation of motion: $r = a + bt + at^{2}$)
The correlation between the data and the term linear in time =   0.9961E+00
The correlation between the data and the time**2 term =   0.9903E+00
The correlation between the data and the complete equation of motion=0.9975E+00
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]