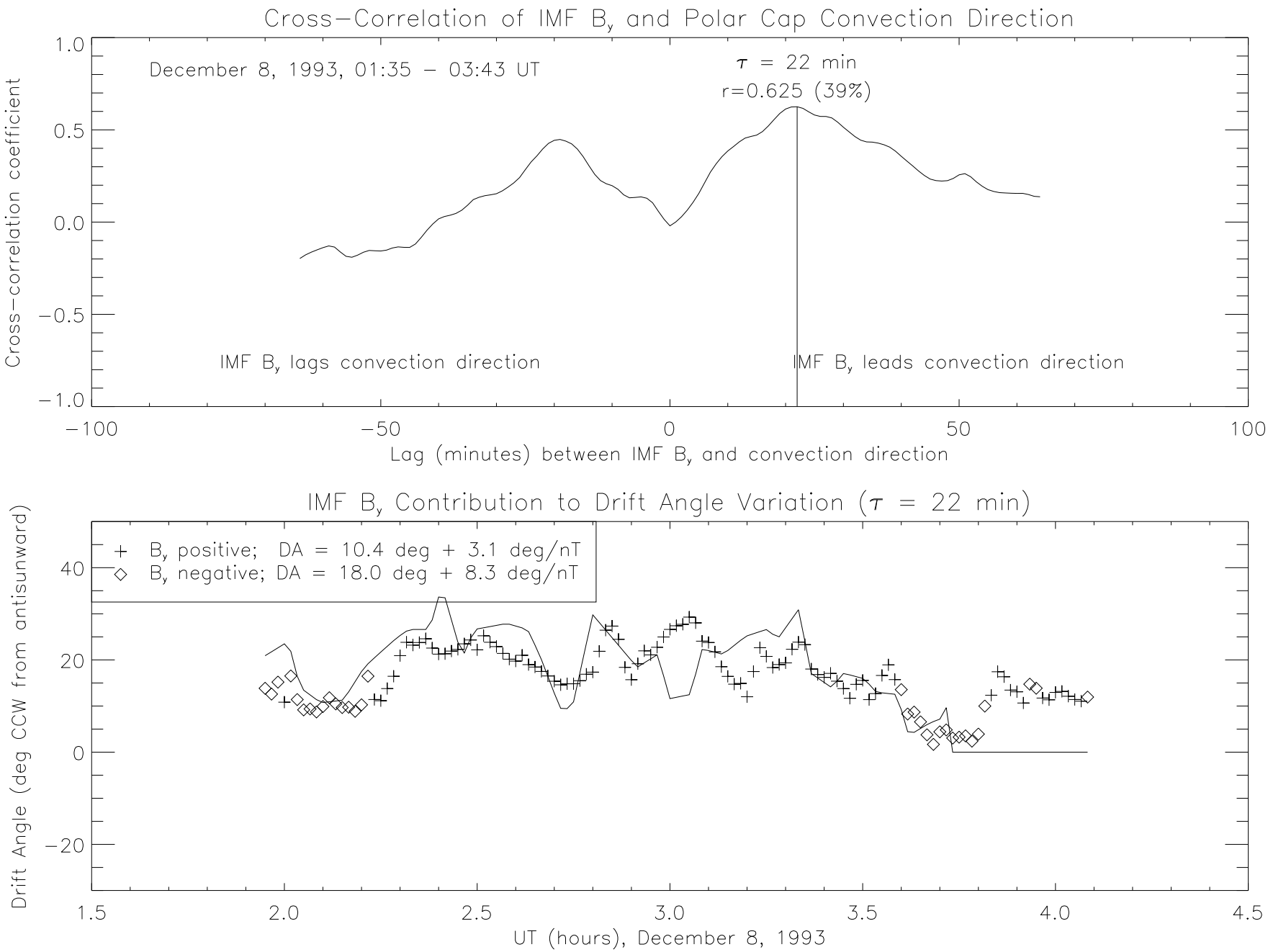
Cross−Correlation of IMF B_y and Polar Cap Convection Direction
December 8, 1993, 01:35 − 03:43 UT
τ = 22 min
r=0.625 (39%)
Cross−correlation coefficient
1.0
0.5
0.0
−0.5
−1.0
IMF B_y lags convection direction
IMF B_y leads convection direction
−100
−50
0
50
100
Lag (minutes) between IMF B_y and convection direction
IMF B_y Contribution to Drift Angle Variation (τ = 22 min)
+ B_y positive; DA = 10.4 deg + 3.1 deg/nT
◇ B_y negative; DA = 18.0 deg + 8.3 deg/nT
Drift Angle (deg CCW from antisunward)
40
20
0
−20
1.5
2.0
2.5
3.0
3.5
4.0
4.5
UT (hours), December 8, 1993