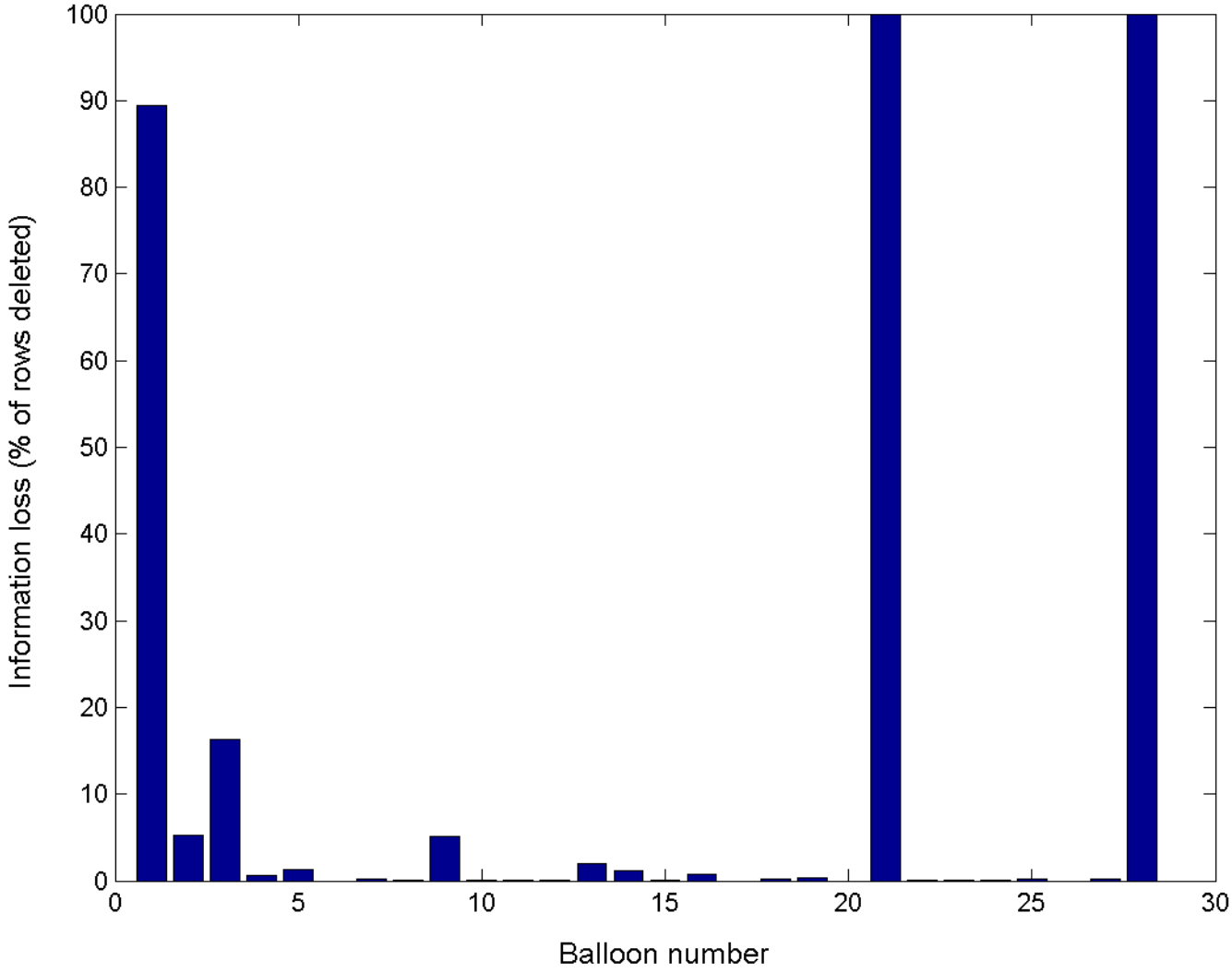


Fig. 1 Percentage of data loss due to errors or missing data, for each balloon.

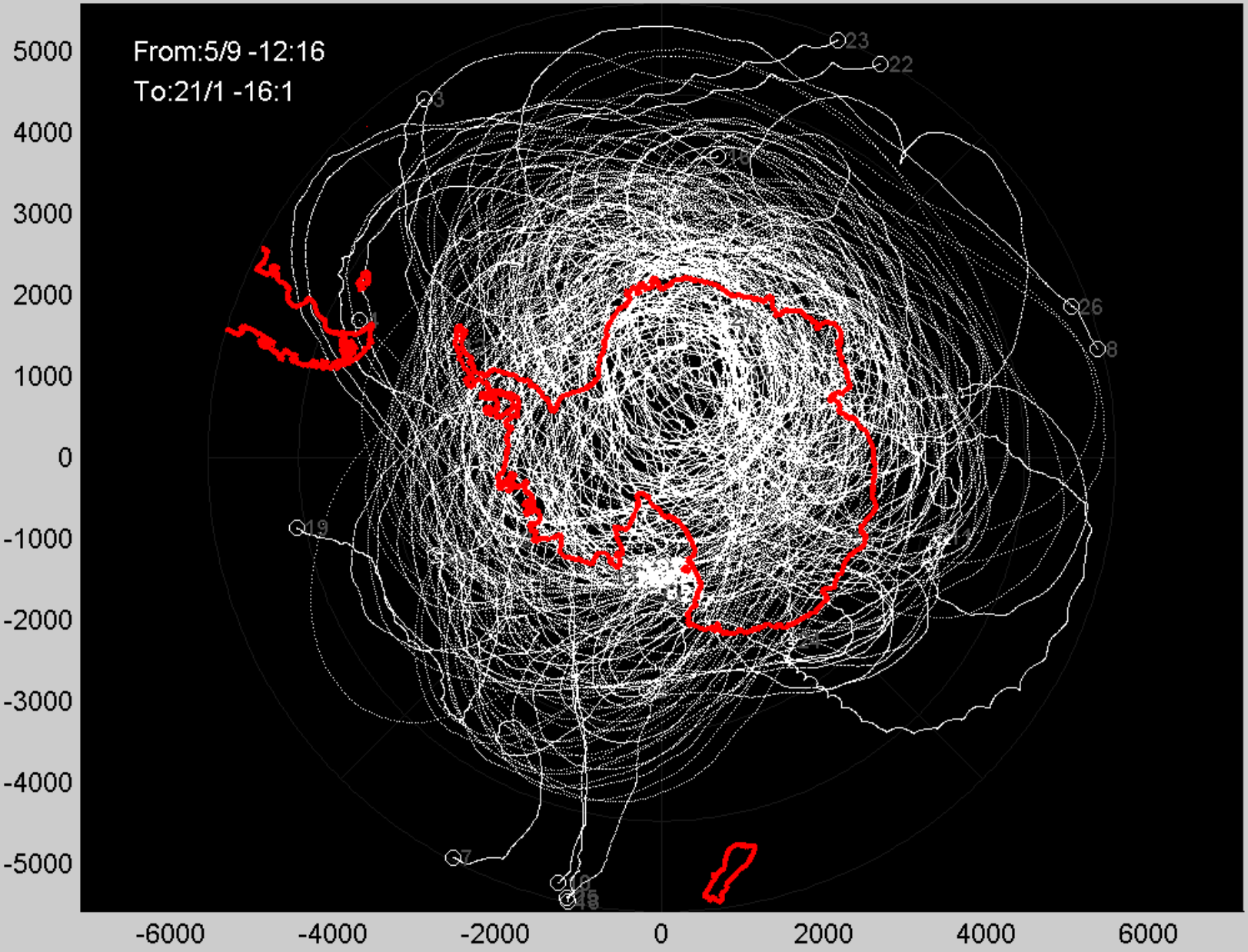


Fig. 2 Positions occupied every 15 minutes by the all balloons from 09.05.2005 to 01.21.2006

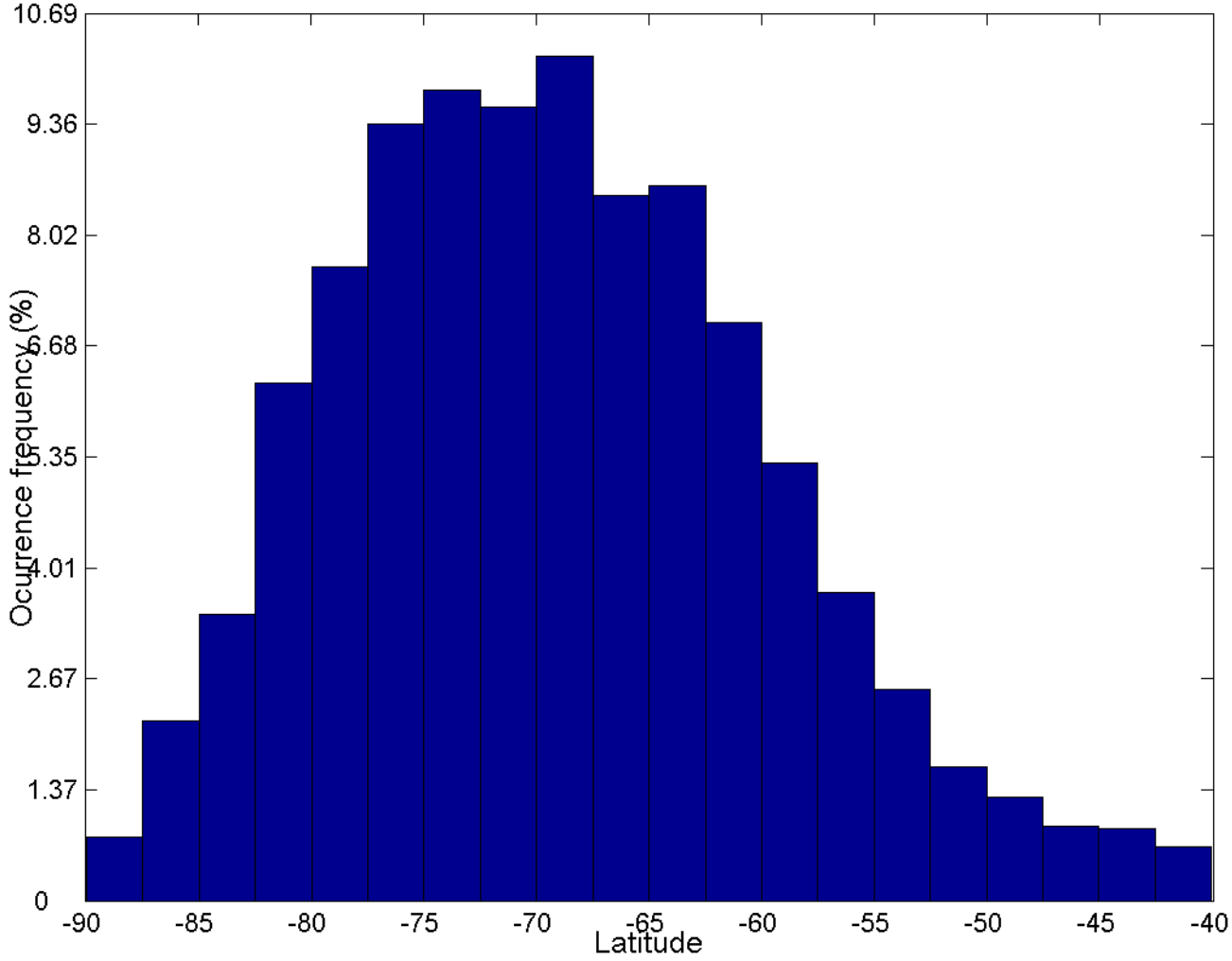


Fig. 3 Histogram of latitudinal positions occupied by all balloons from 09.05.2005 to 01.21.2006

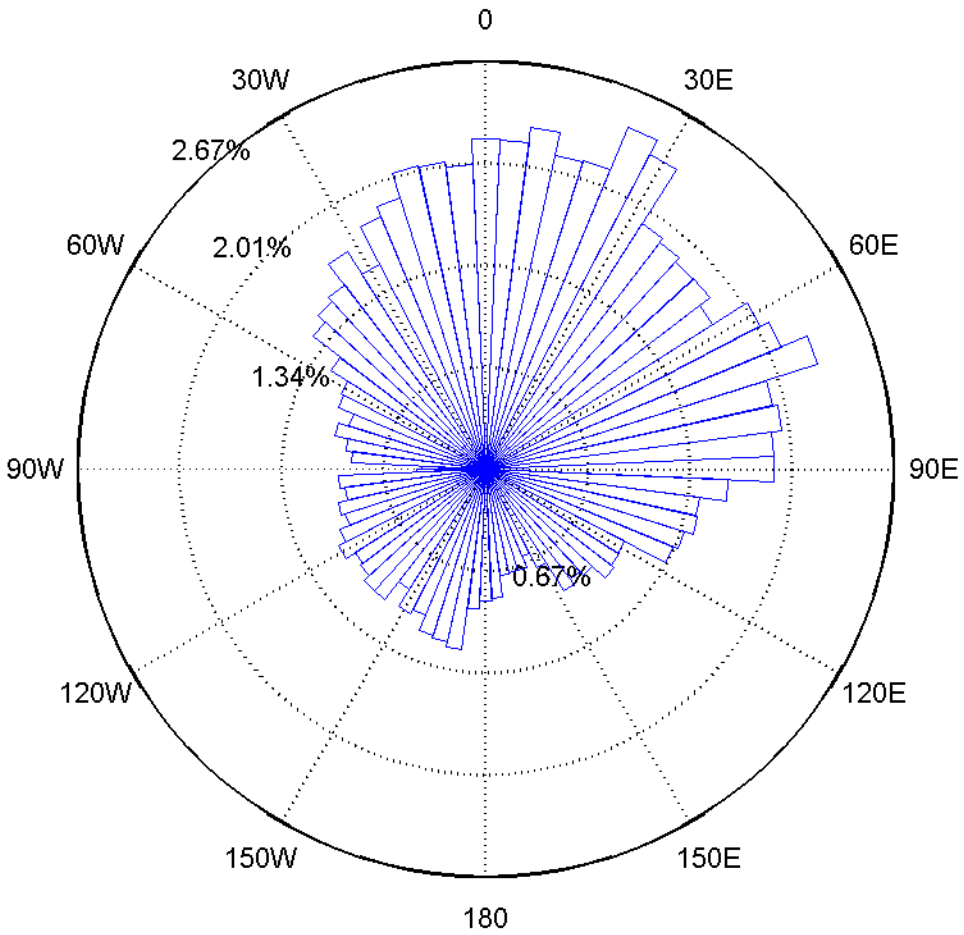


Fig. 4 Histogram of longitudinal positions occupied by all balloons from 09.05.2005 to 01.21.2006

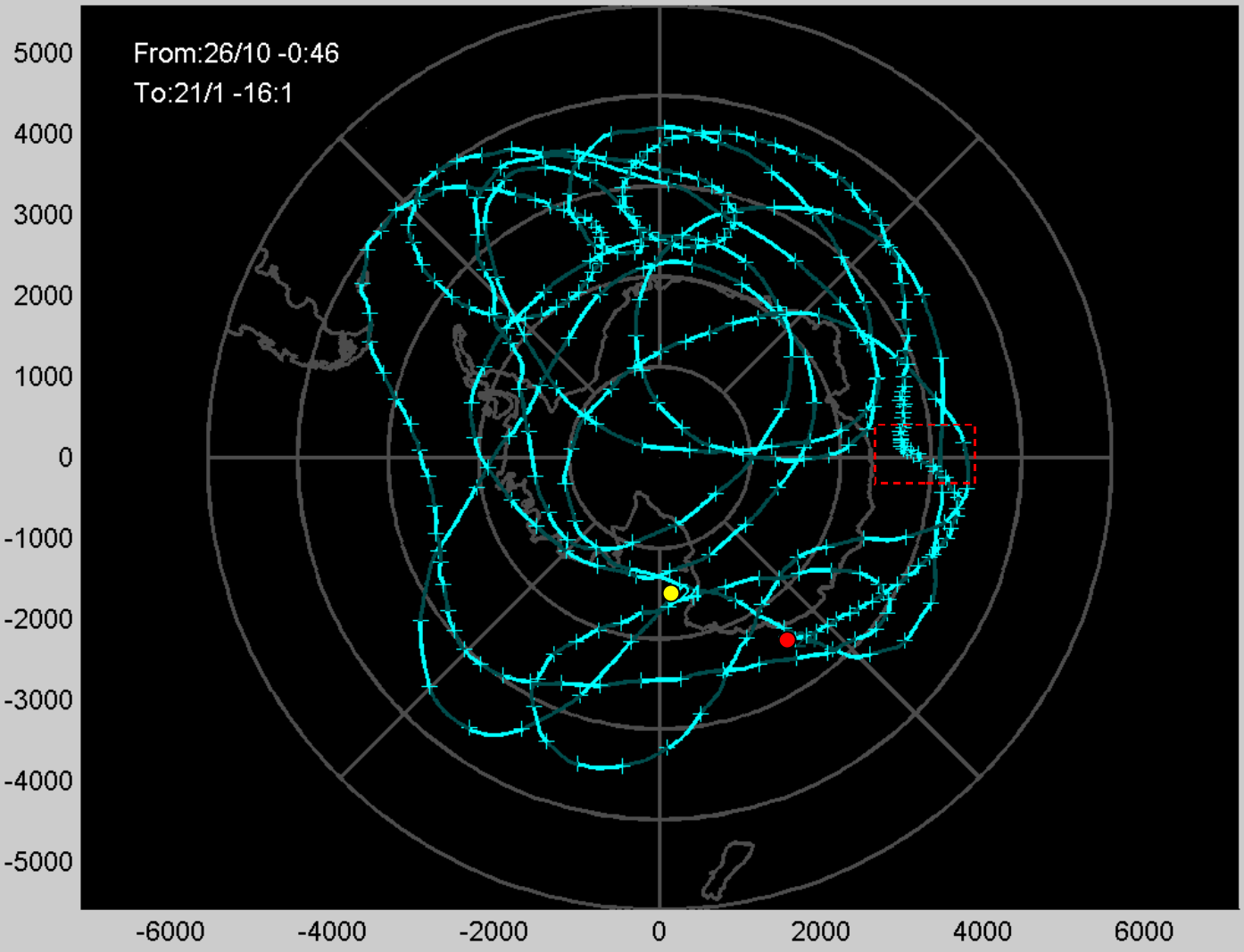


Fig. 5 Trayectory of balloon N°24, from 26 October 2005 to 21 January 2006, marked every 6 hours. Yellow and red dots indicate the initial and final position of the balloon. Scales in x and y axis indicate distance measured along meridians northward from the South Pole. Details of trayectory inside red box is presented in Fig. 6

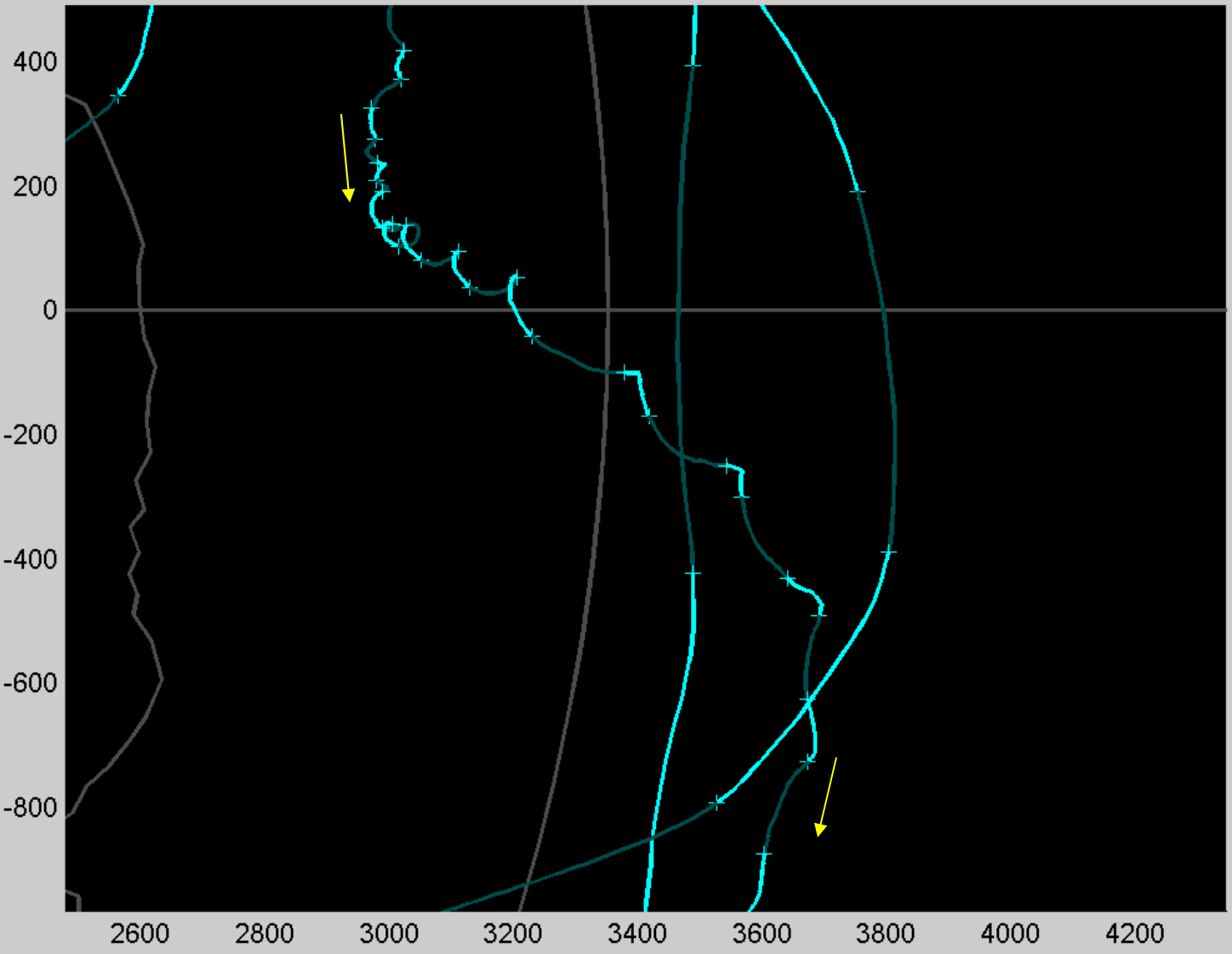
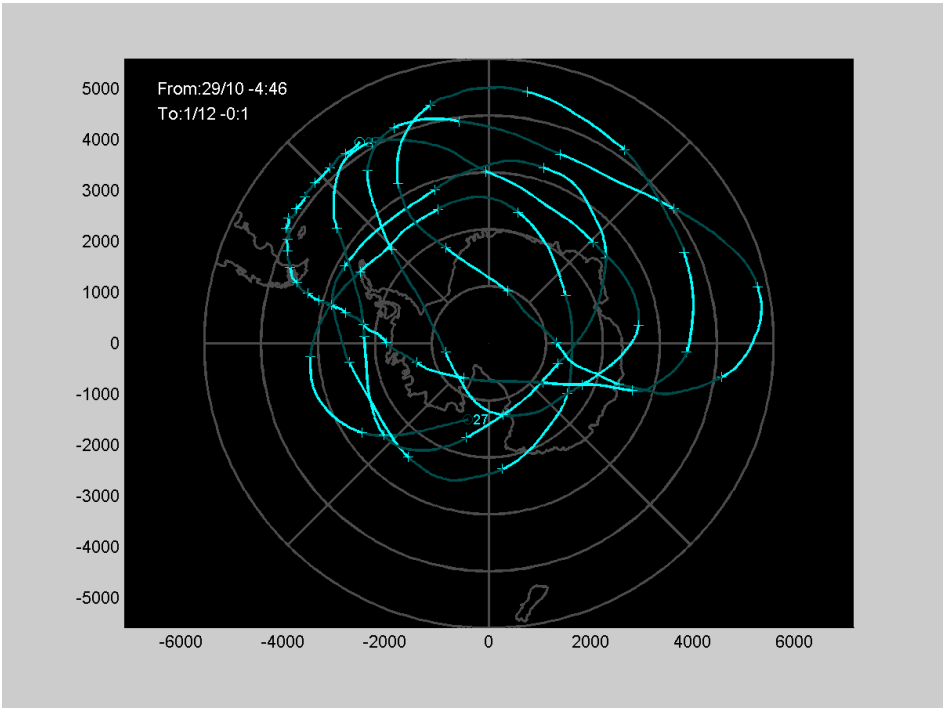


Fig. 6 Details of trayectory of balloon 24, with marks every 6 hours (for a global position see Fig. 5). Scales in x and y axis indicate distance measured along meridians northward from the South Pole.

a)

b)



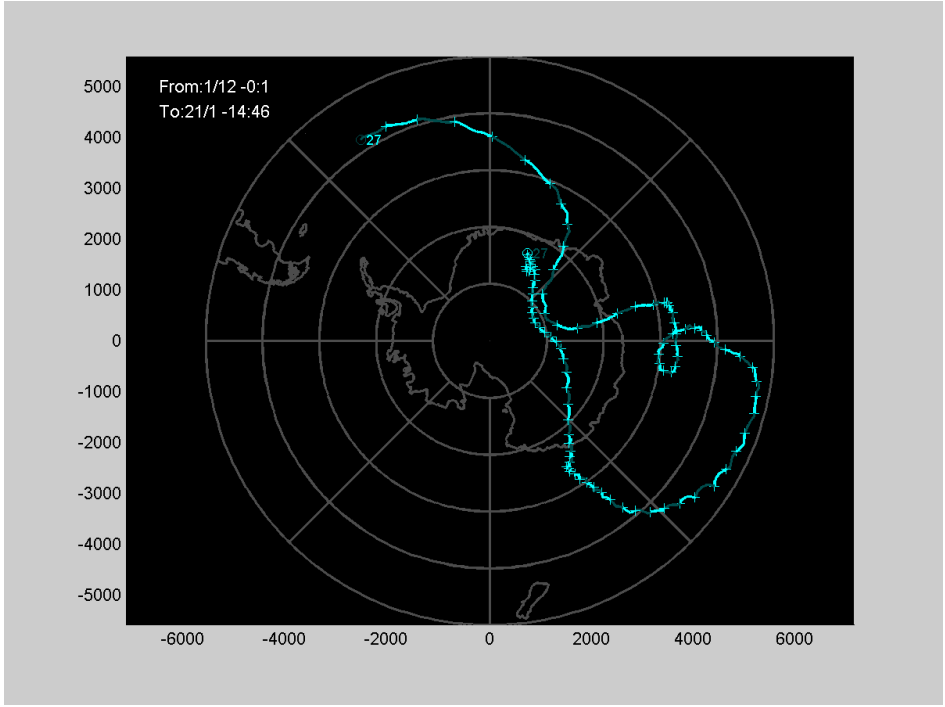
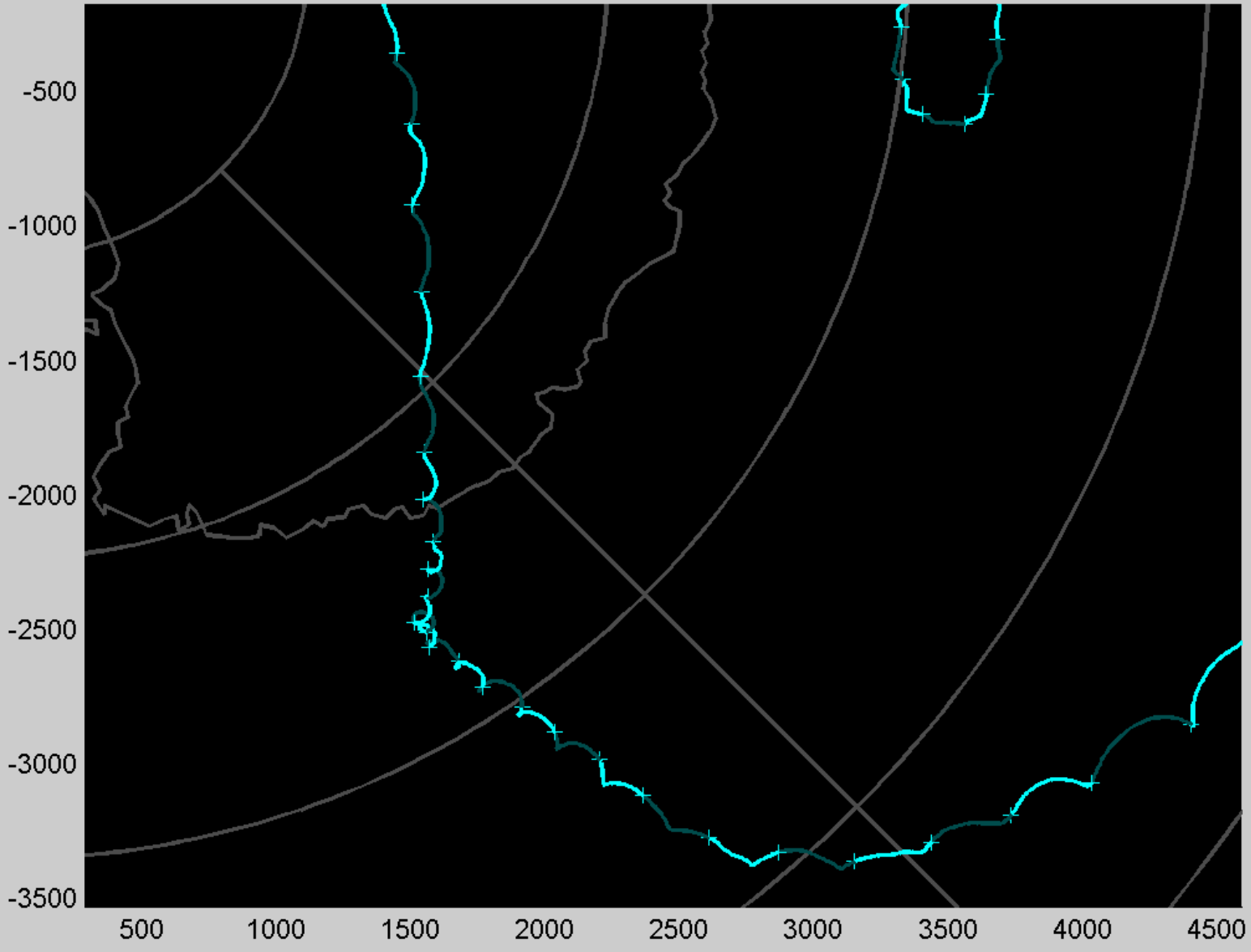


Fig. 7a Trayectory of balloon N° 27 before (a) and after (b) the break of the polar vortex in early December 2005. Marks are indicated every 12 hours. Details of trayectory after the break is indicated in Fig 7b.

Fig. 7b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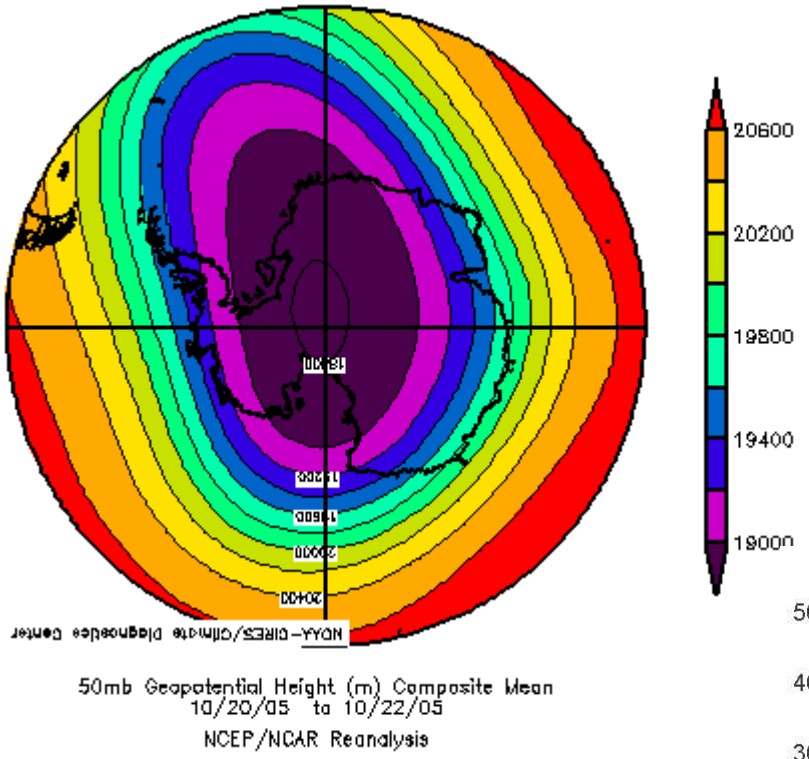
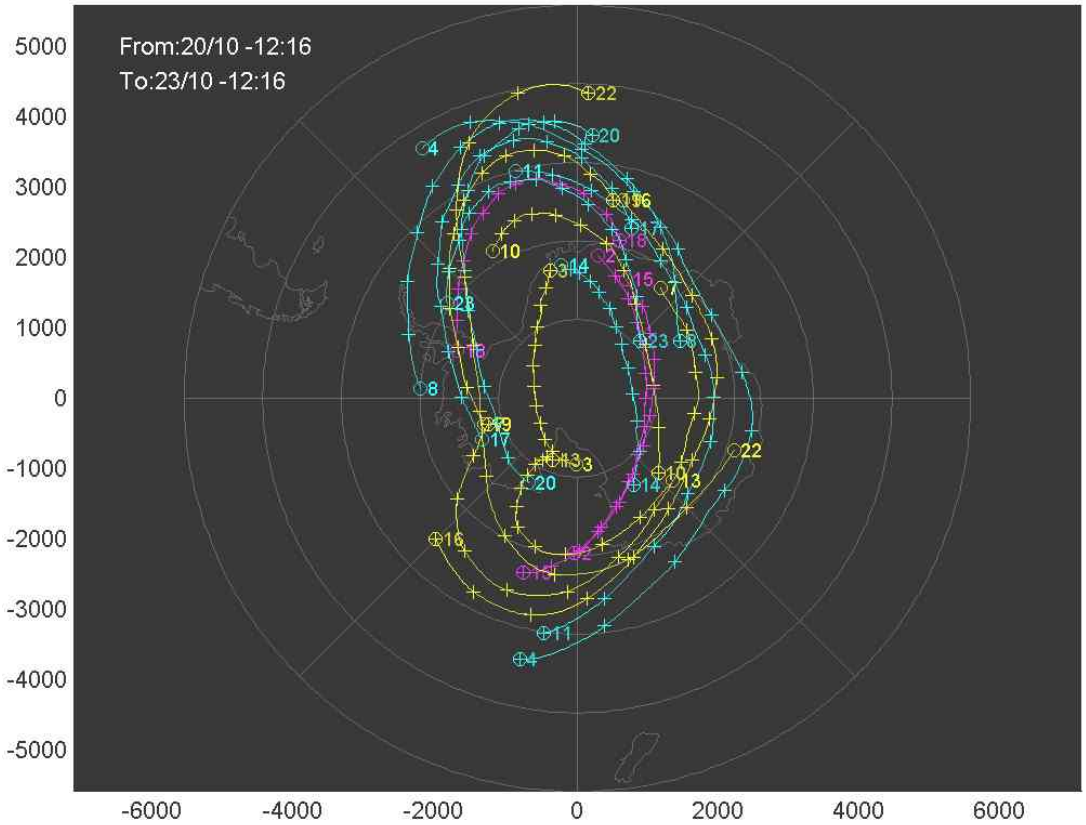


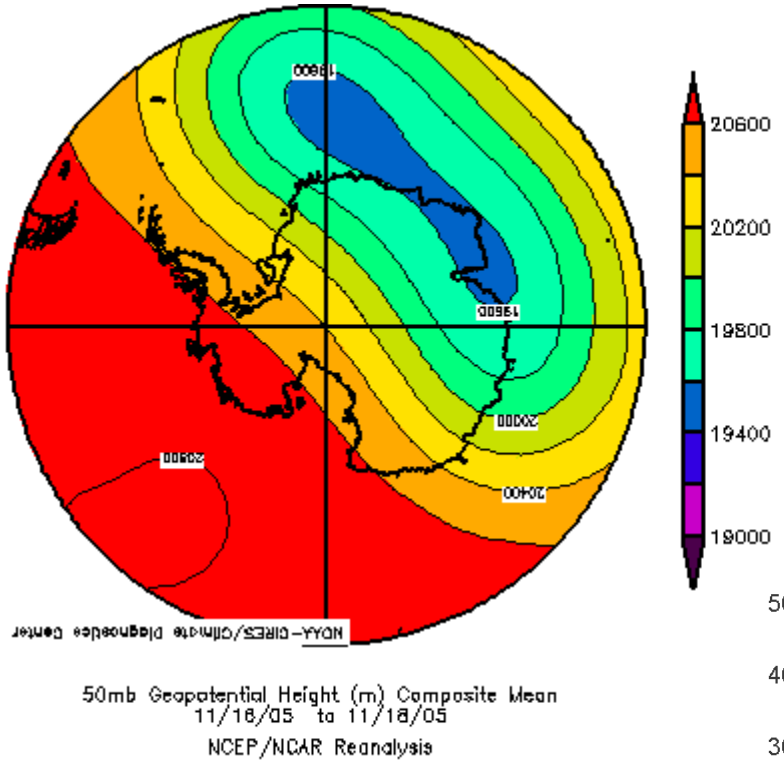
20 – 23 October 2005

Trayectories for balloons flying during indicated dates (3 days)



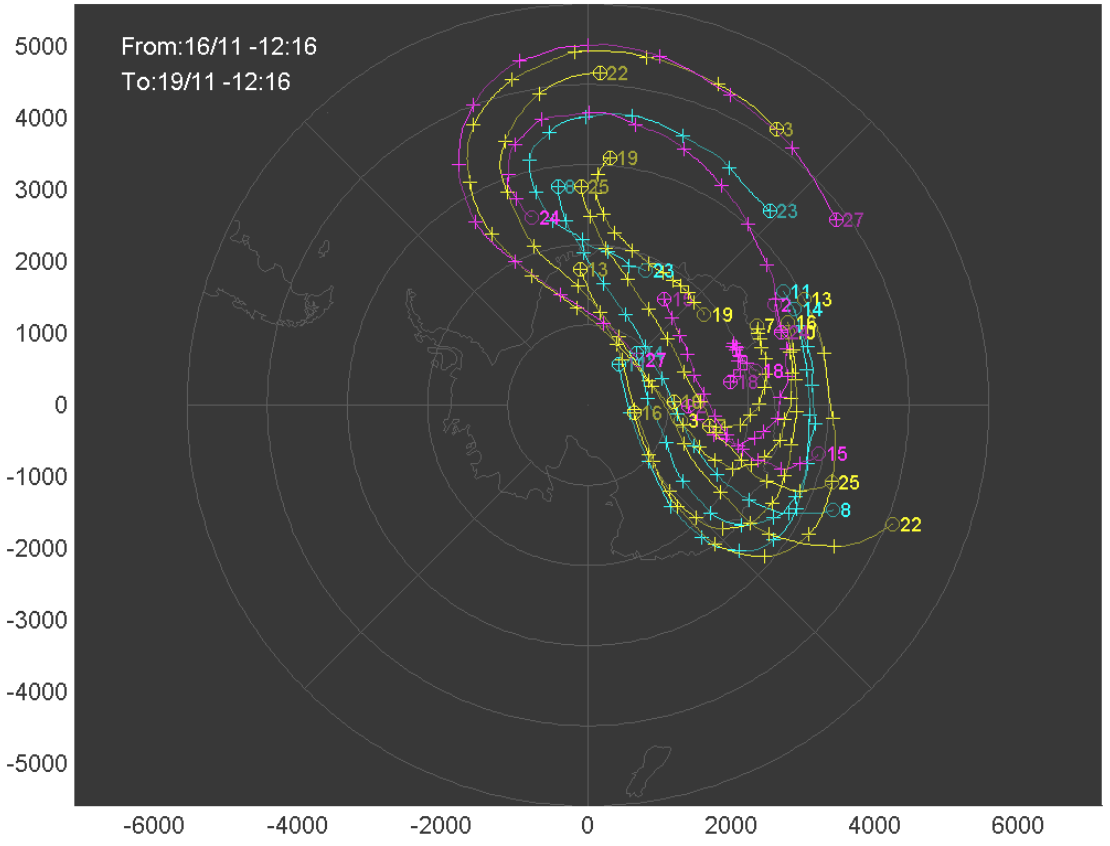
50 hPa geopotential height field during the indicated iterval.
Source: NCEP

Fig. 9



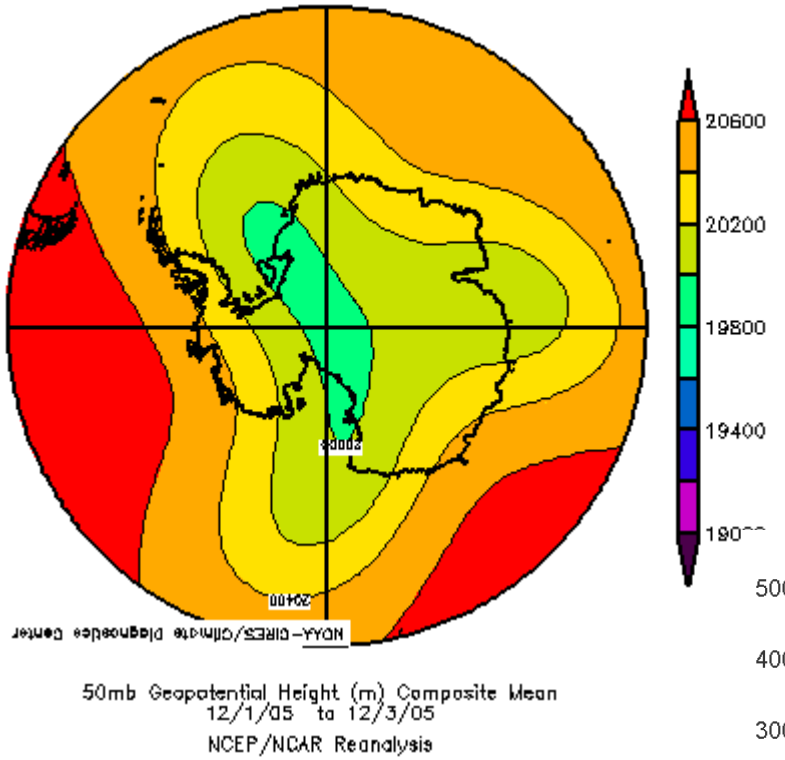
16 – 19 November 2005

Trayectories for balloons flying during the indicated dates (3 days) with marks every 6 hours



50 hPa geopotential height field during the indicated interval.
Source: NCEP

Fig. 10



50 hPa geopotential height field during the indicated interval. Source: NCEP

1 – 4 December 2005

Trayectories for balloons flying during the indicated dates (3 days) with marks every 6 hours

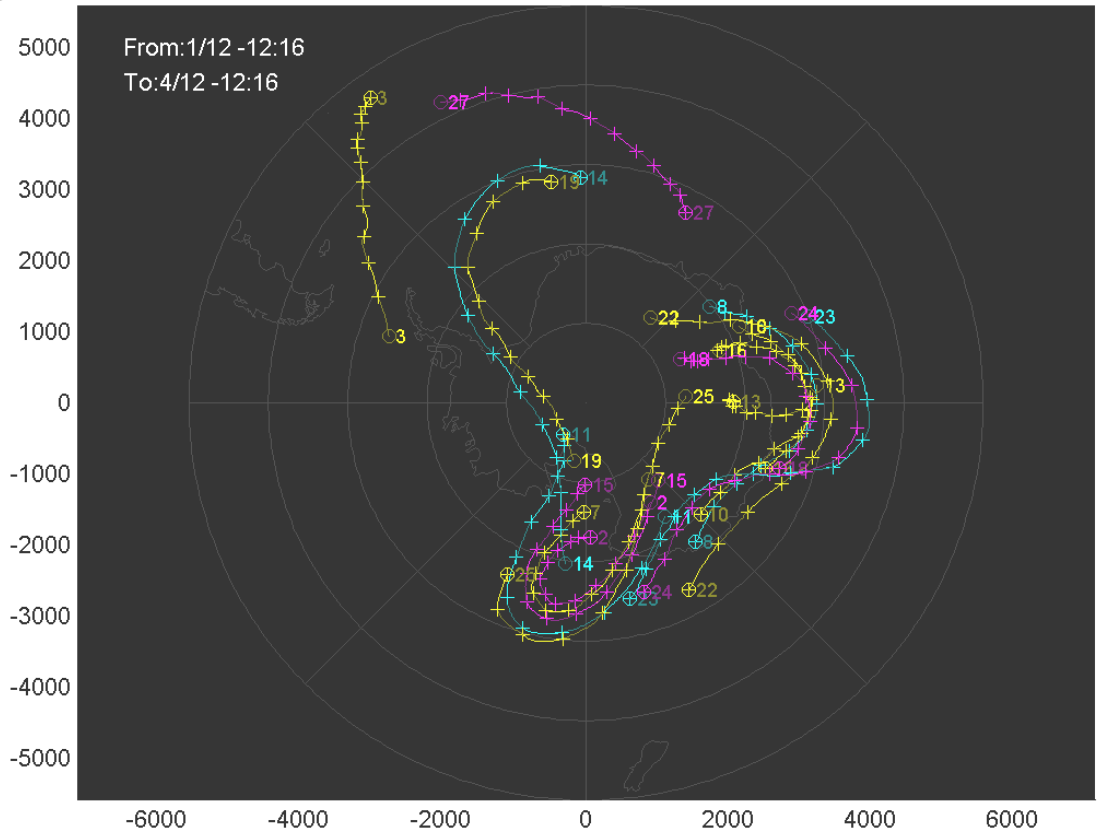
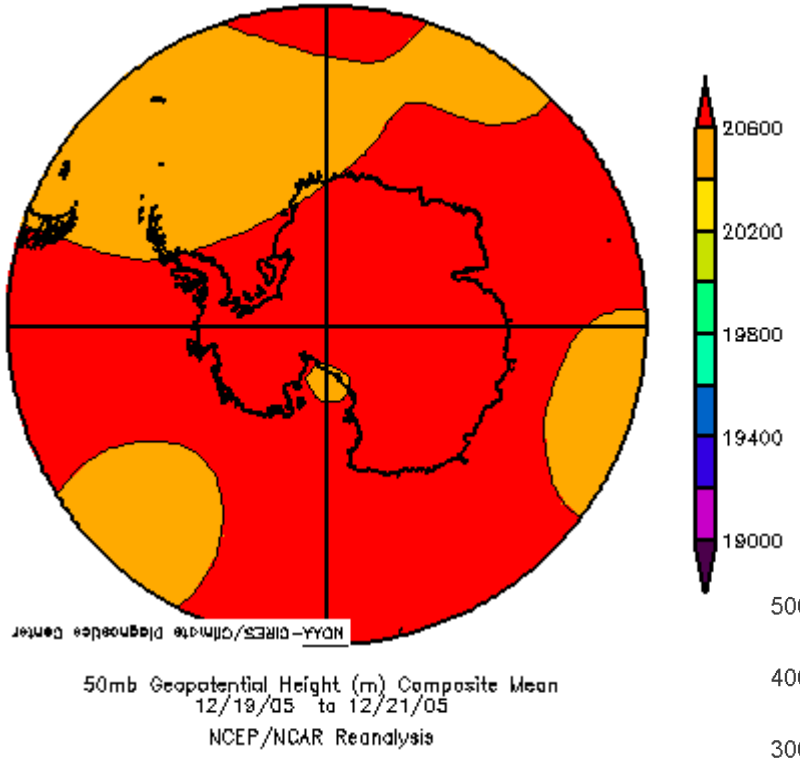
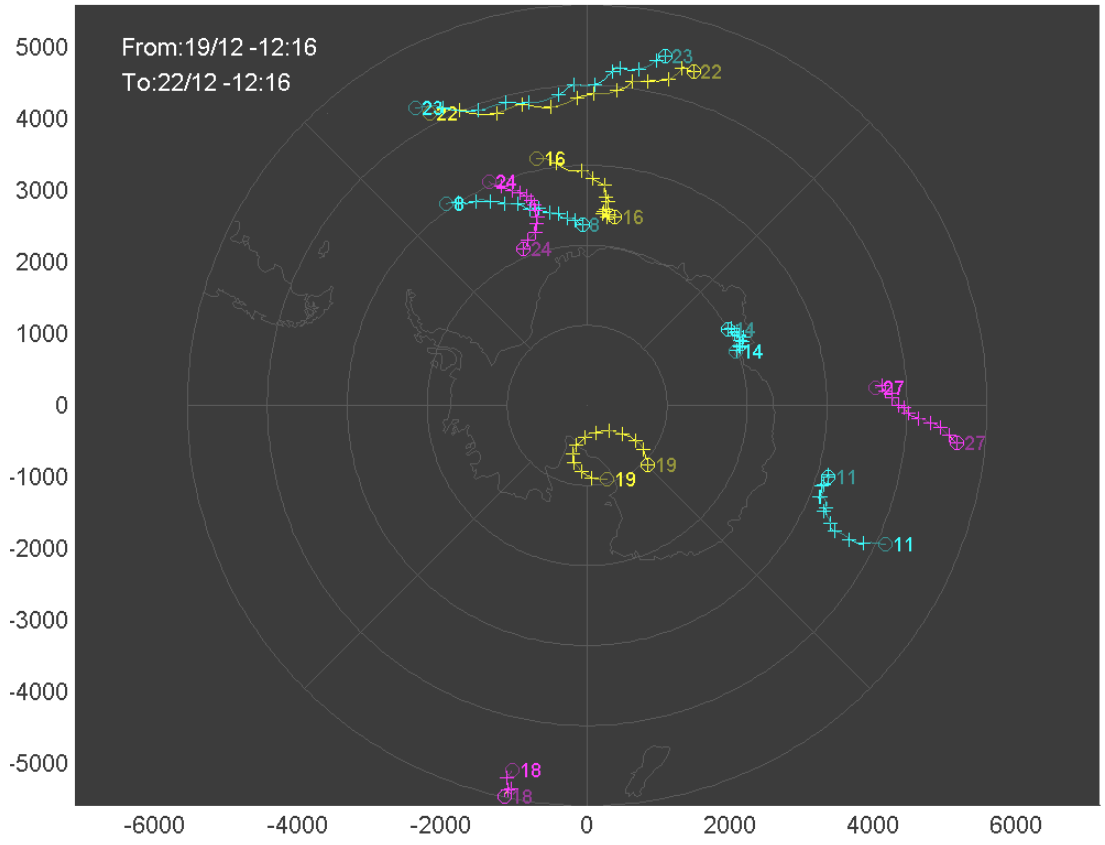


Fig. 11



19 – 22 December 2005

Trayectories for balloons flying during the indicated dates (3 days) with marks every 6 hours



50 hPa geopotential height field during the indicated interval.
Source: NCEP

Fig. 12

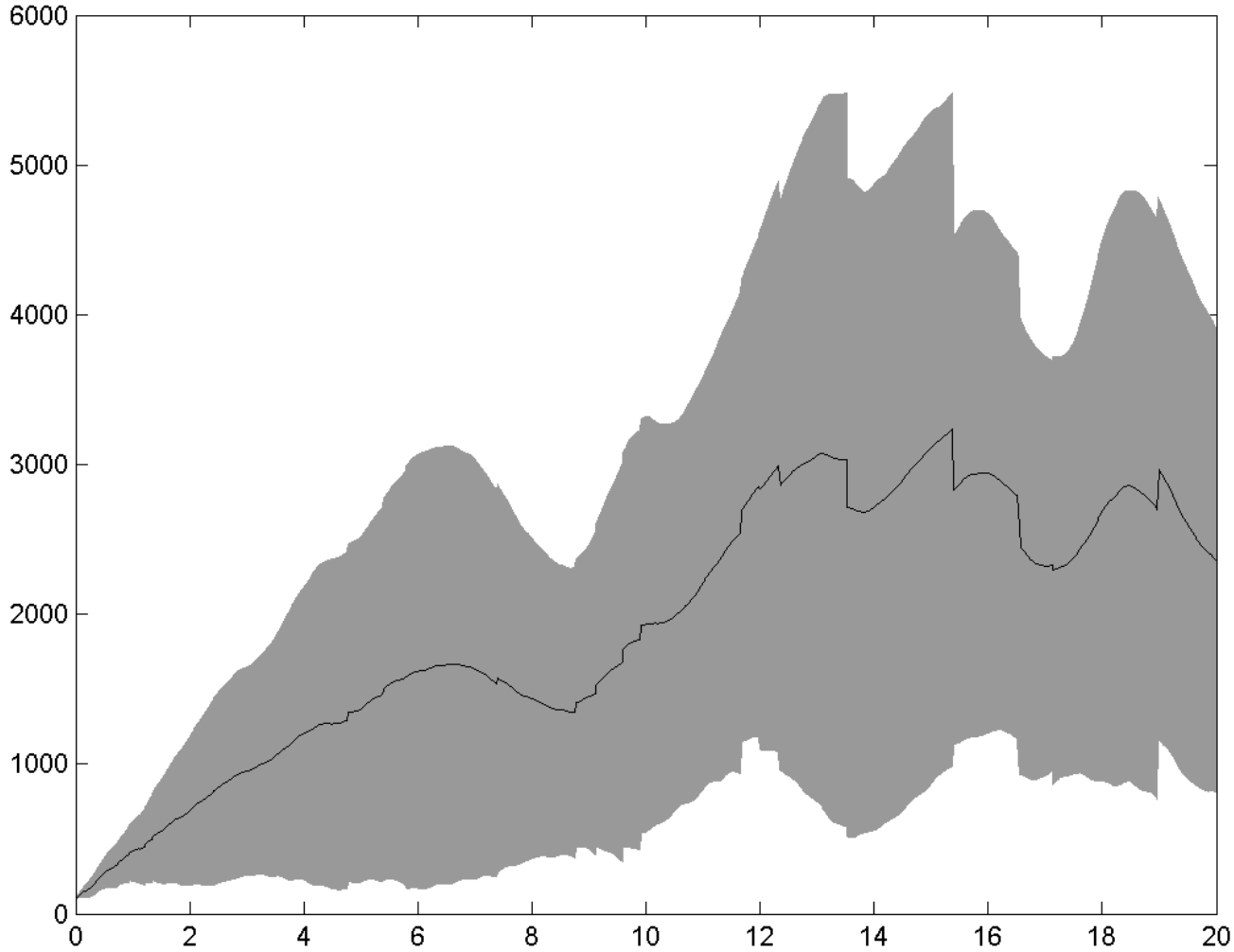


Fig 13a. Average distance (km) between two balloons that got close together (treshold 100 km) against time after the near encounter (in days). Upper and lower boundary of grey area indicate the spread (+/- 1 st. dev.) of separation distance. Number of cases in the calculation of average distance and standard deviation are indicated in the small box.

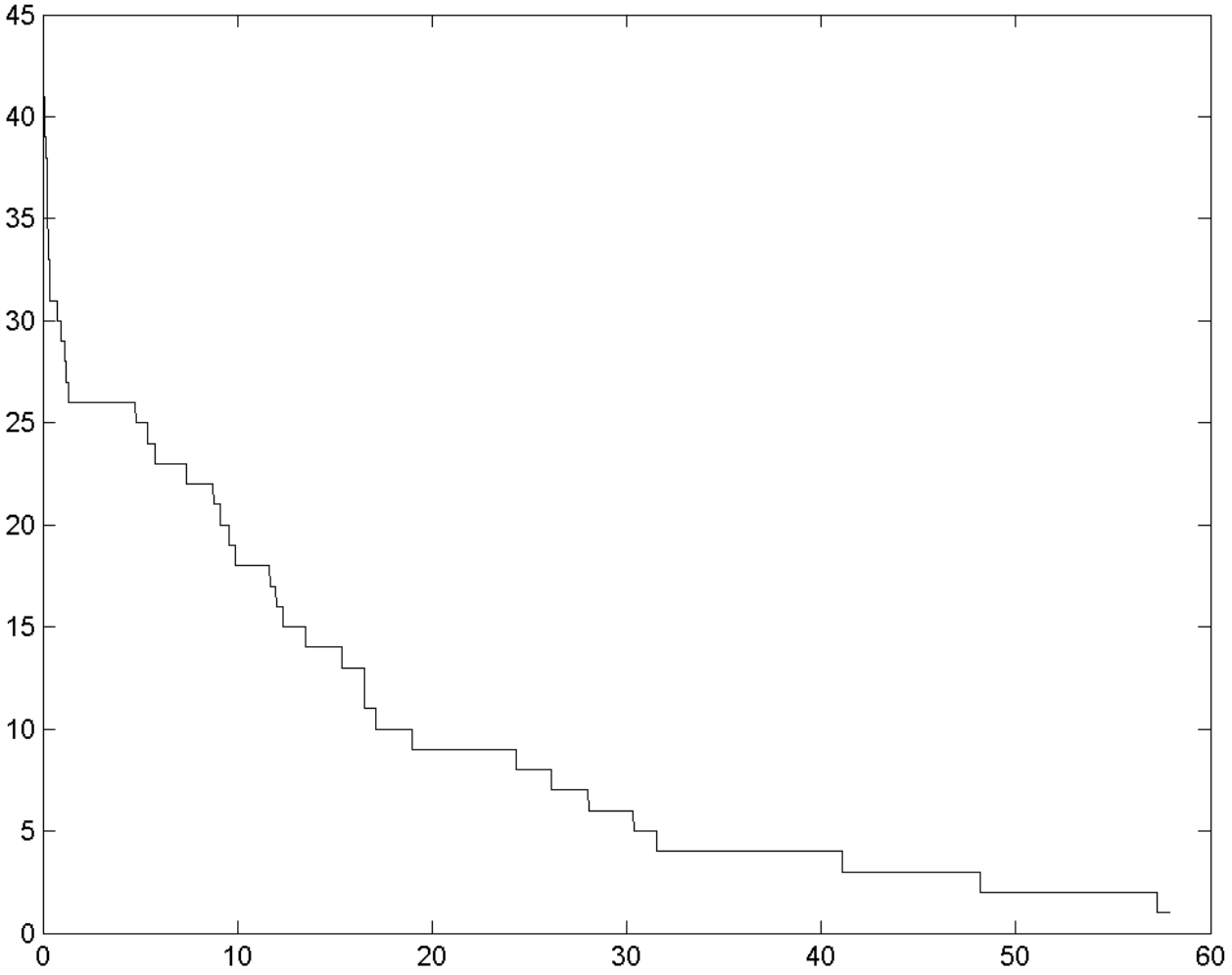


Fig 13b. Number of pairs of balloons whose separation distance was calculated every 15 minutes after near encounters (treshold 100 km), as a function of time (in days).

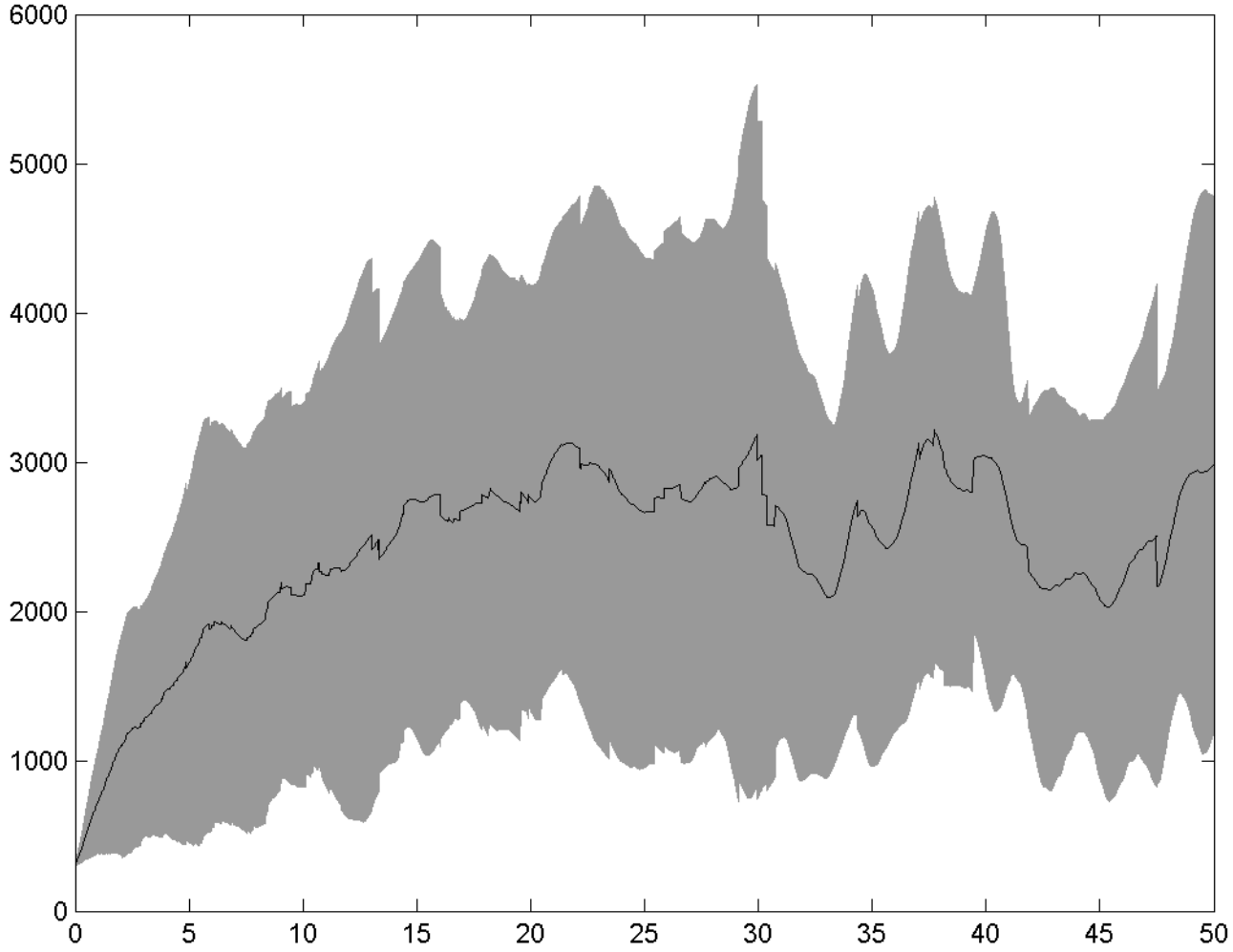


Fig 14a. Average distance (km) between two balloons that got close together (treshold 300 km) against time after the near encounter (in days). Upper and lower boundary of grey area indicate the spread (+/- 1 st. dev.) of separation distance. Number of cases in the calculation of average distance and standard deviation are indicated in the small box.

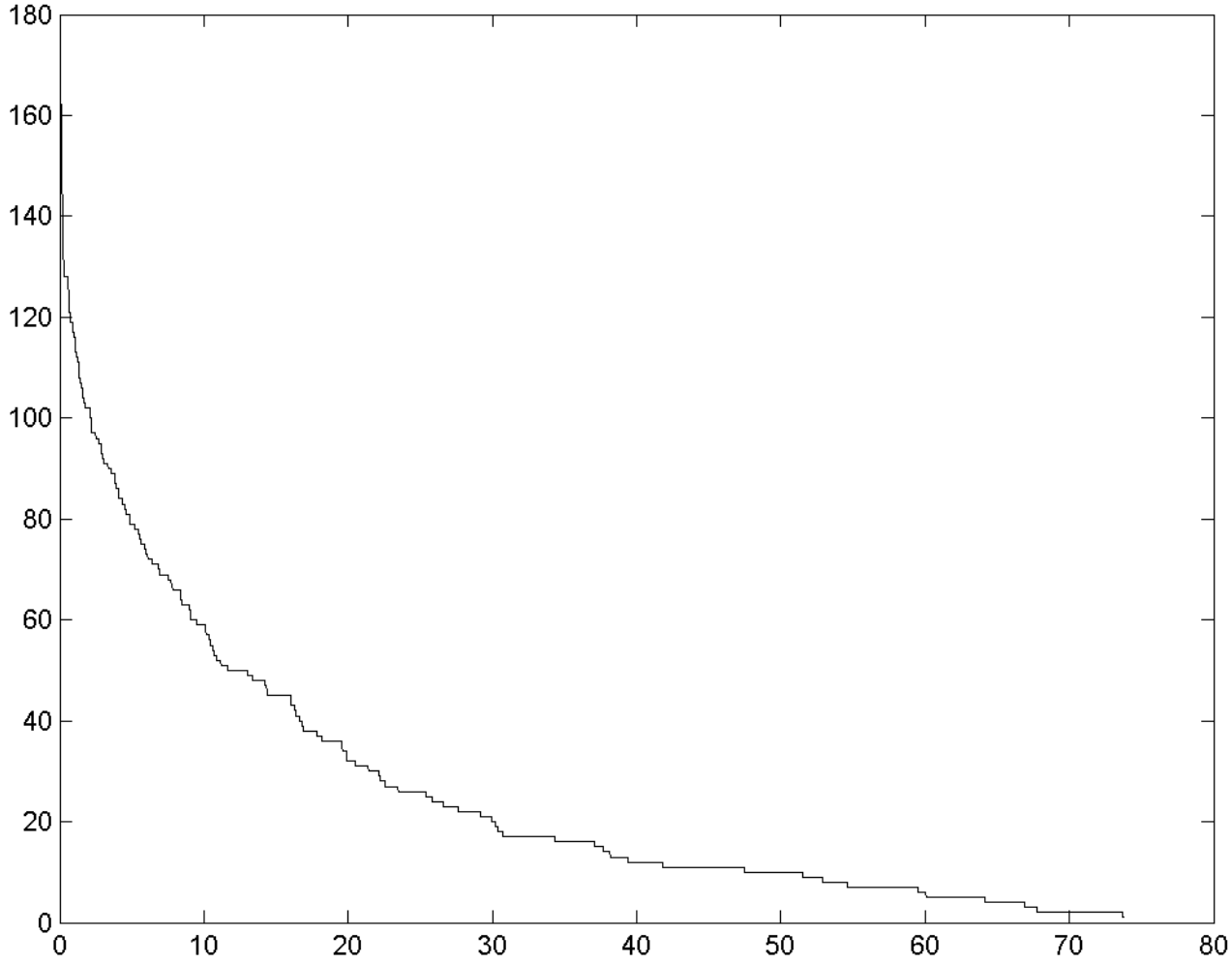


Fig 14b. Number of pairs of balloons whose separation distance was calculated every 15 minutes after near encounters (treshold 300 km), as a function of time (in days).

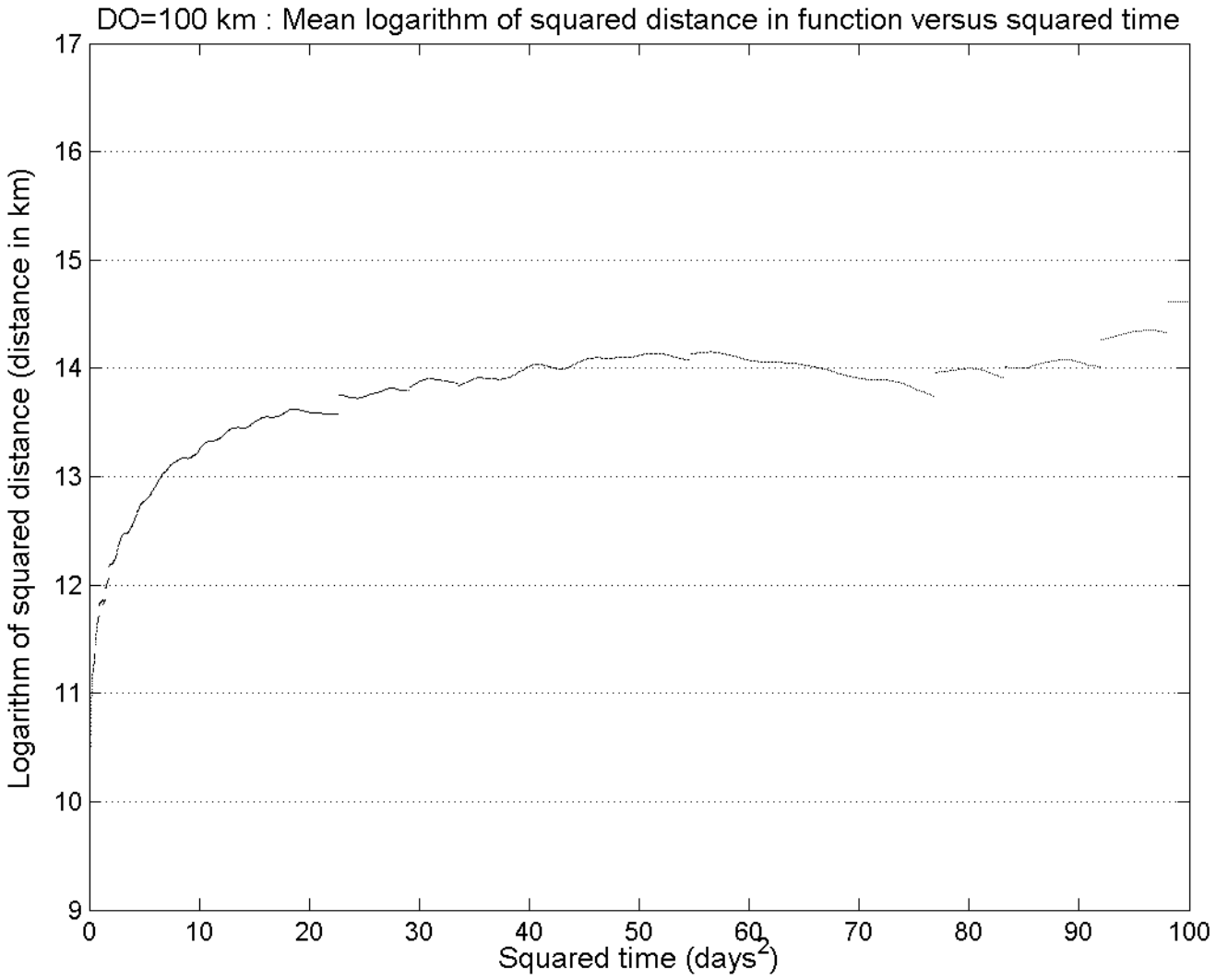


Fig 15a Average value of the logarithm of squared value of separation distance (in km) as function of the squared value of time (in days), after near encounters with a treshold of 100 km. Number of cases involved in the calculation at each elapsed time are indicated in Fig. 13b.

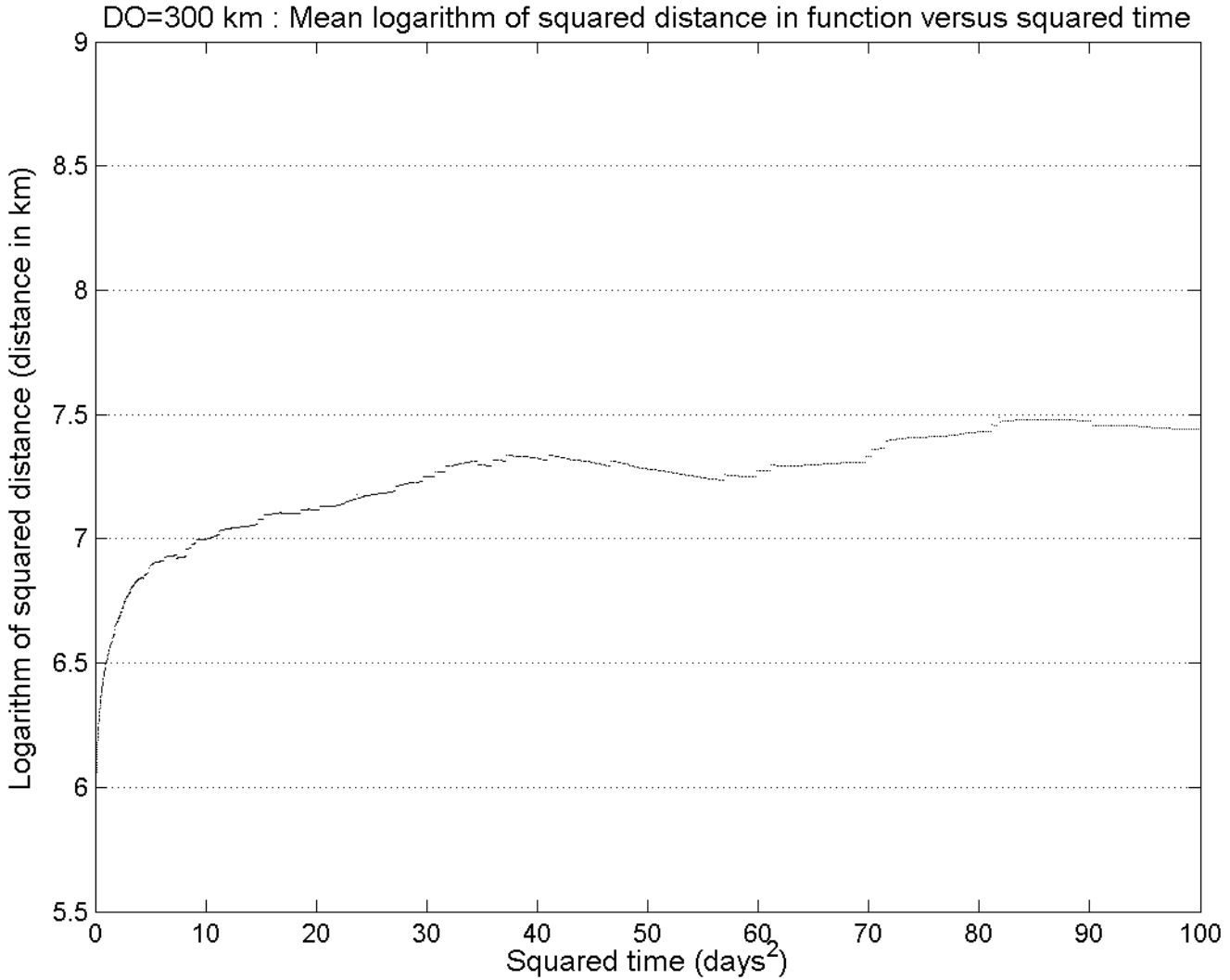


Fig 15b Average value of the logarithm of squared value of separation distance (in km) as function of the squared value of time (in days), after near encounters with a treshold of 300 km. Number of cases involved in the calculation at each elapsed time are indicated in Fig. 13b.