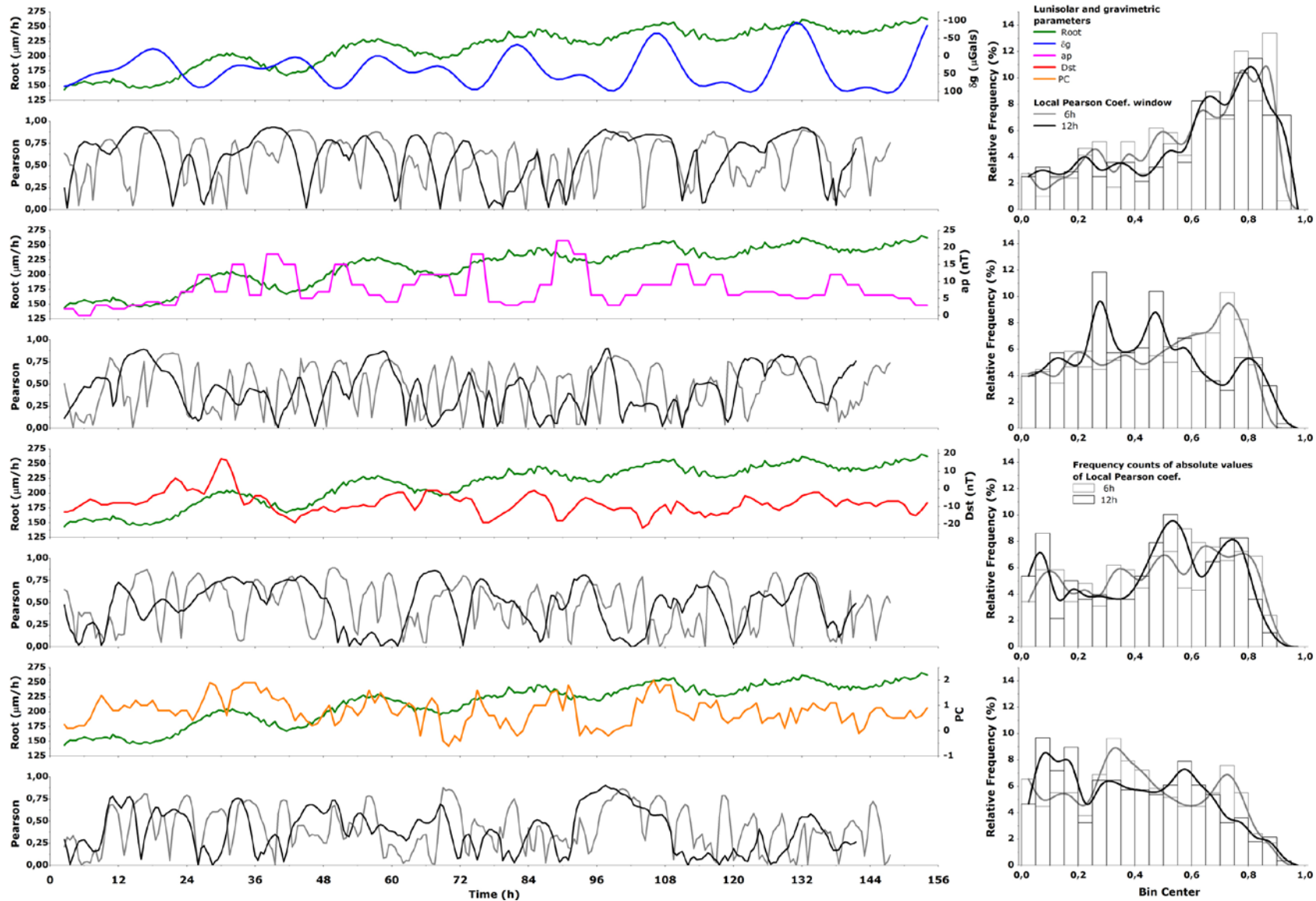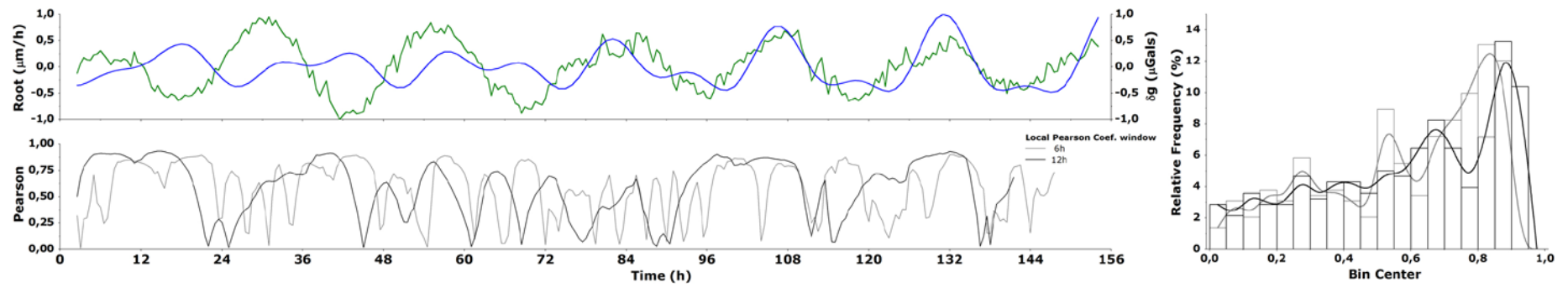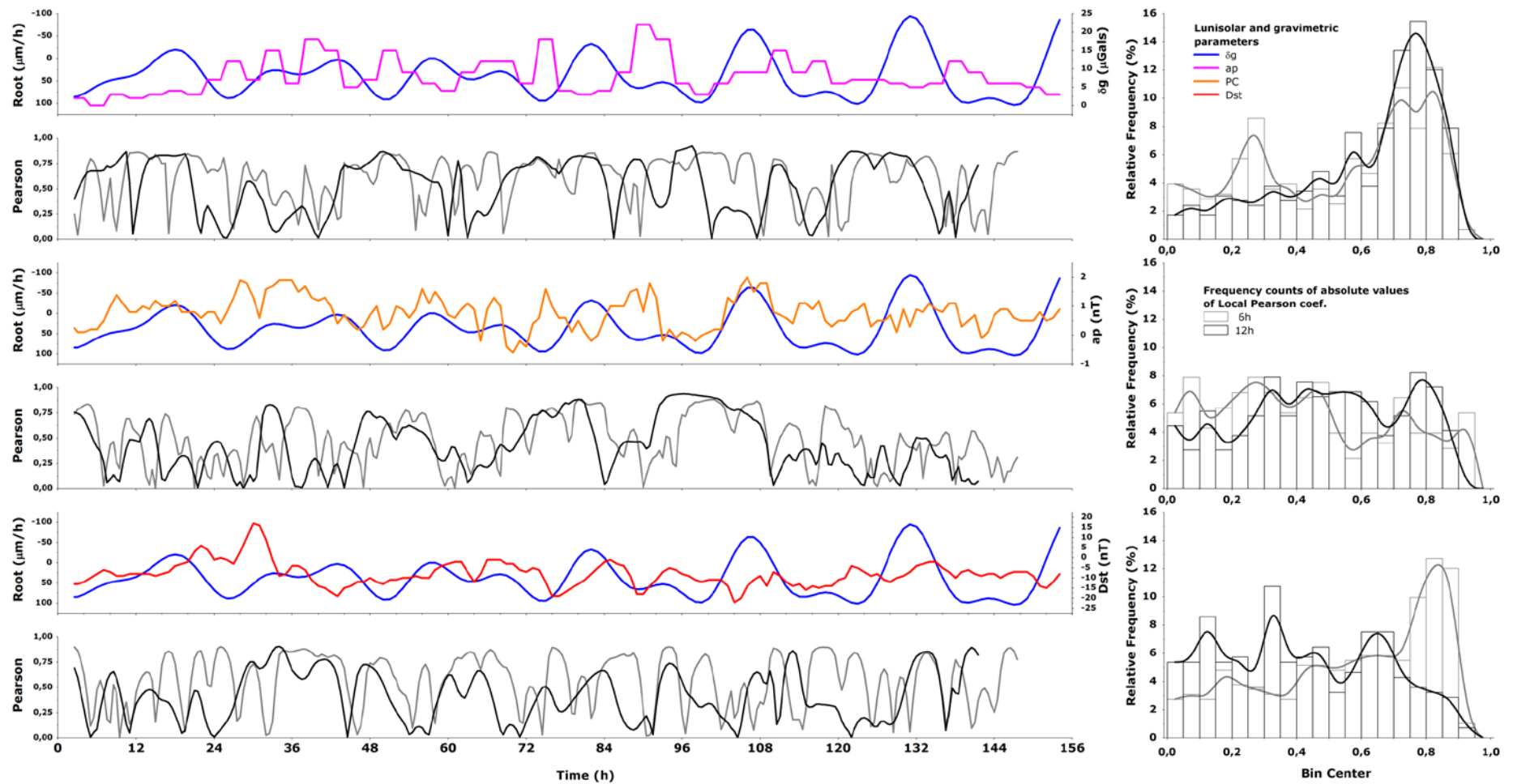SUPPLEMENTARY DATA

FIG. S1. Analyses of data shown in Figure 1 of main text. Time series from experiment number 2 commenced 27/05/2008 and concluded 02/06/2008. (A) Left-hand panels: The upper panel of each of the four pairs of graphs are the time series of data for the parameter indicated on the vertical axes, the lower panel of each pair shows the local Pearson correlations. The four correlations are between the time series of root elongation rate δR, the gravimetric tide δg, and the three geomagnetic indices ap, Dst, and PC. Two window sizes, 12h and 6h, were employed. Right-hand panels: corresponding frequencies of occurrence of the local Pearson correlation coefficients, with reference to the two window sizes. Non-normalised data were used.
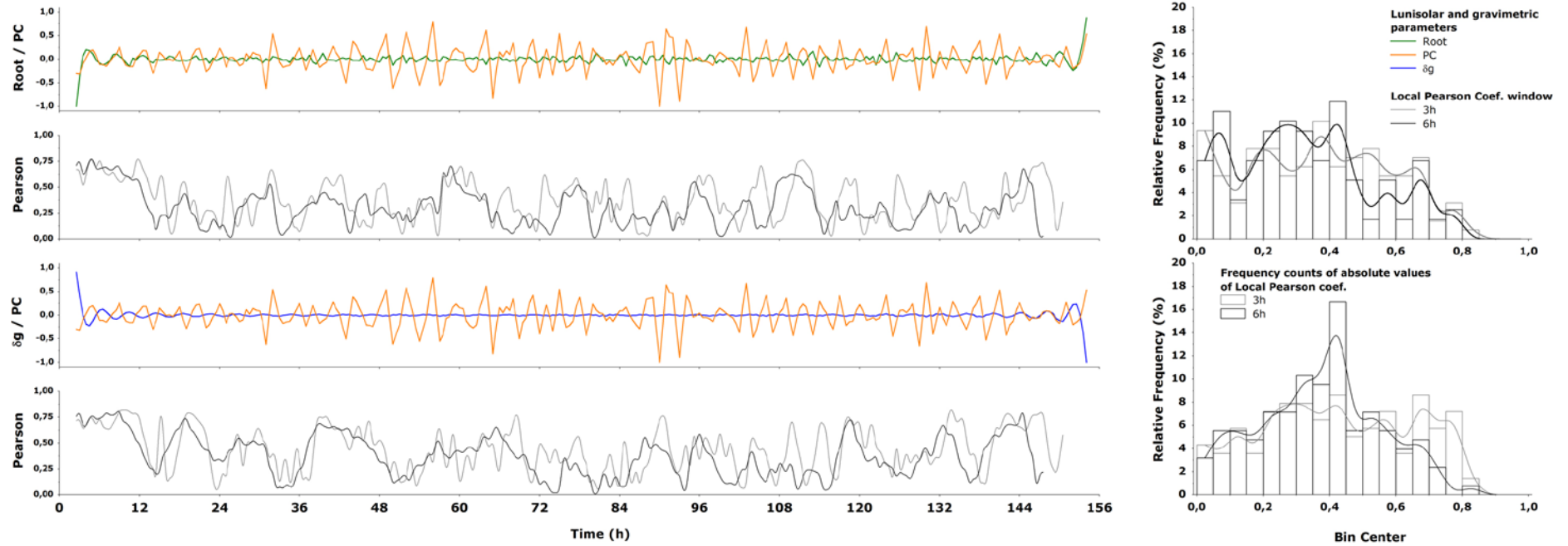
FIG. S1. (B) Same correlation as in (A), but here performed between δg and root elongation rate δR, as shown in Fig. S1A (top panel), except that the correlation used the normalised time series of both δR and δg.

FIG. S1. (C) Left-hand panels: local Pearson correlations between time series of δg and the geomagnetic indices ap, Dst and PC. Two window sizes, 12h and 6h, were employed. Right-hand panels: corresponding frequencies of occurrence of the local Pearson correlation coefficients, with reference to the two window sizes.

FIG. S1. (D) Left-hand panels: local Pearson correlations between time series of normalised root elongation rate δR versus PC index (upper pair of panels), and between time series of δg and the PC index (lower pair of panels). Two window sizes, 6h and 3h, were employed. The geophysical time series filtered, by removing values which, from FFT analysis, were $>3.10^{-5}$ Hz, i.e. periods $< \sim 10$h. Right-hand panels: the corresponding frequencies of occurrence of the local Pearson correlation coefficients, with reference to the two window sizes.

FIG. S2. The various panels (A–D) are similar to those in Fig. S1. The results refer to analyses of data of experiment 2A obtained from a single root, No. 2224, shown in Fig. 2 of the main text. Time series commenced 27/05/2008 and concluded 02/06/2008.
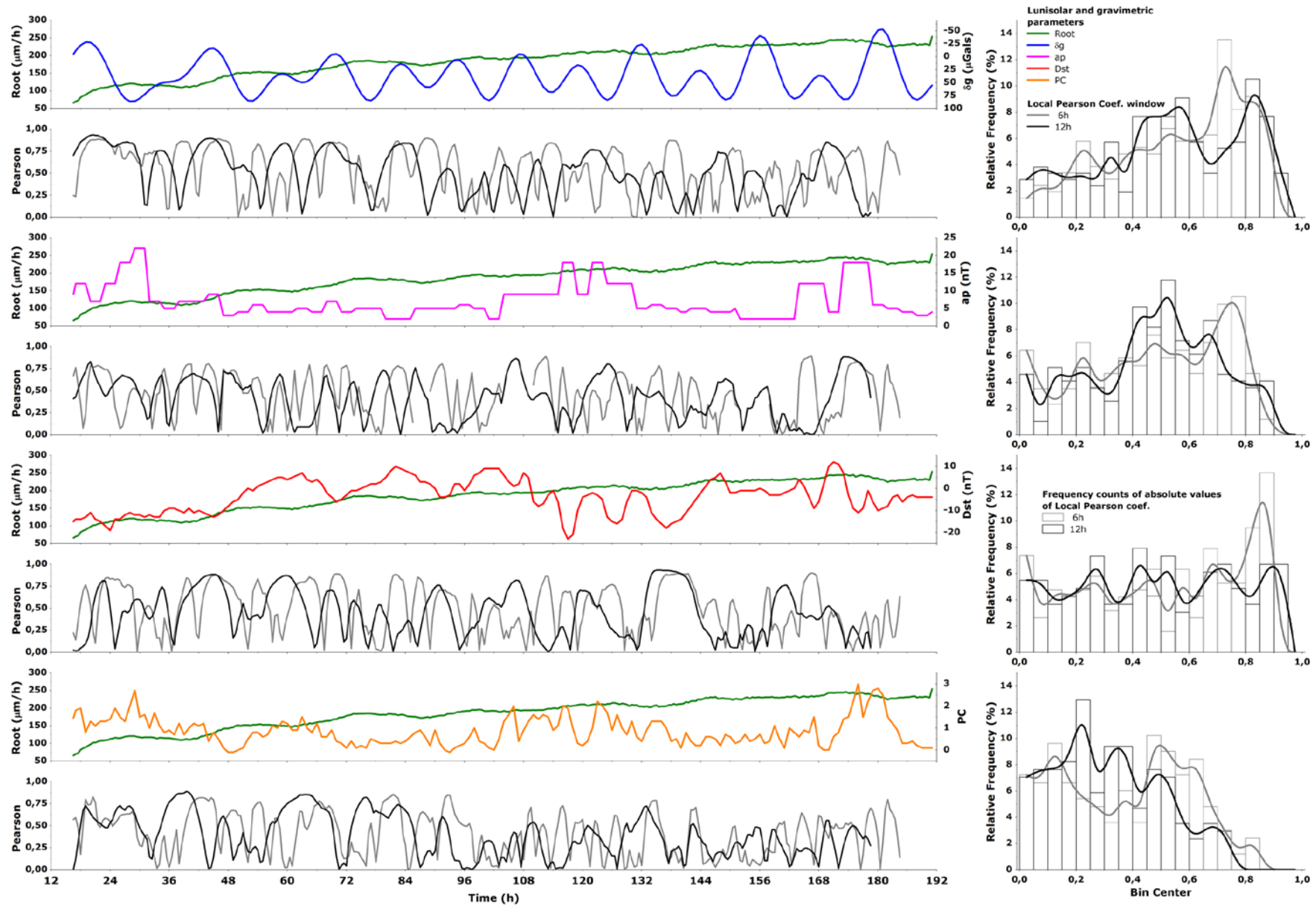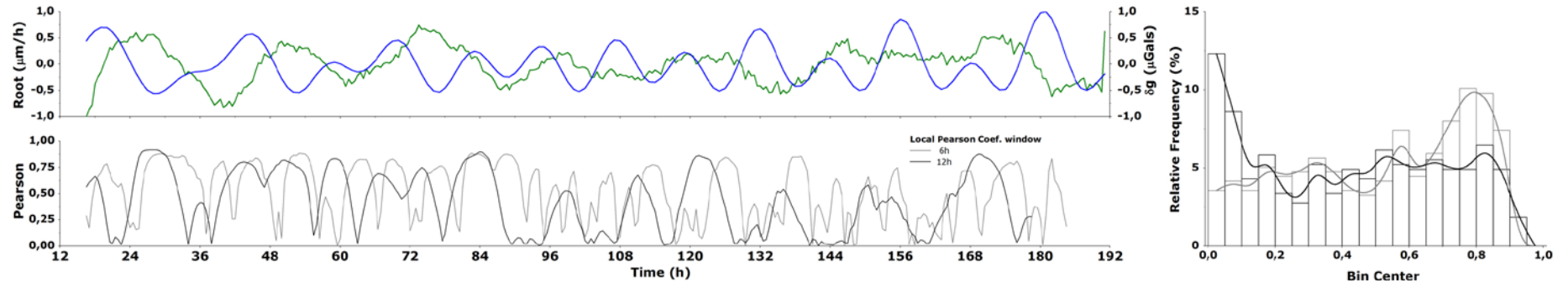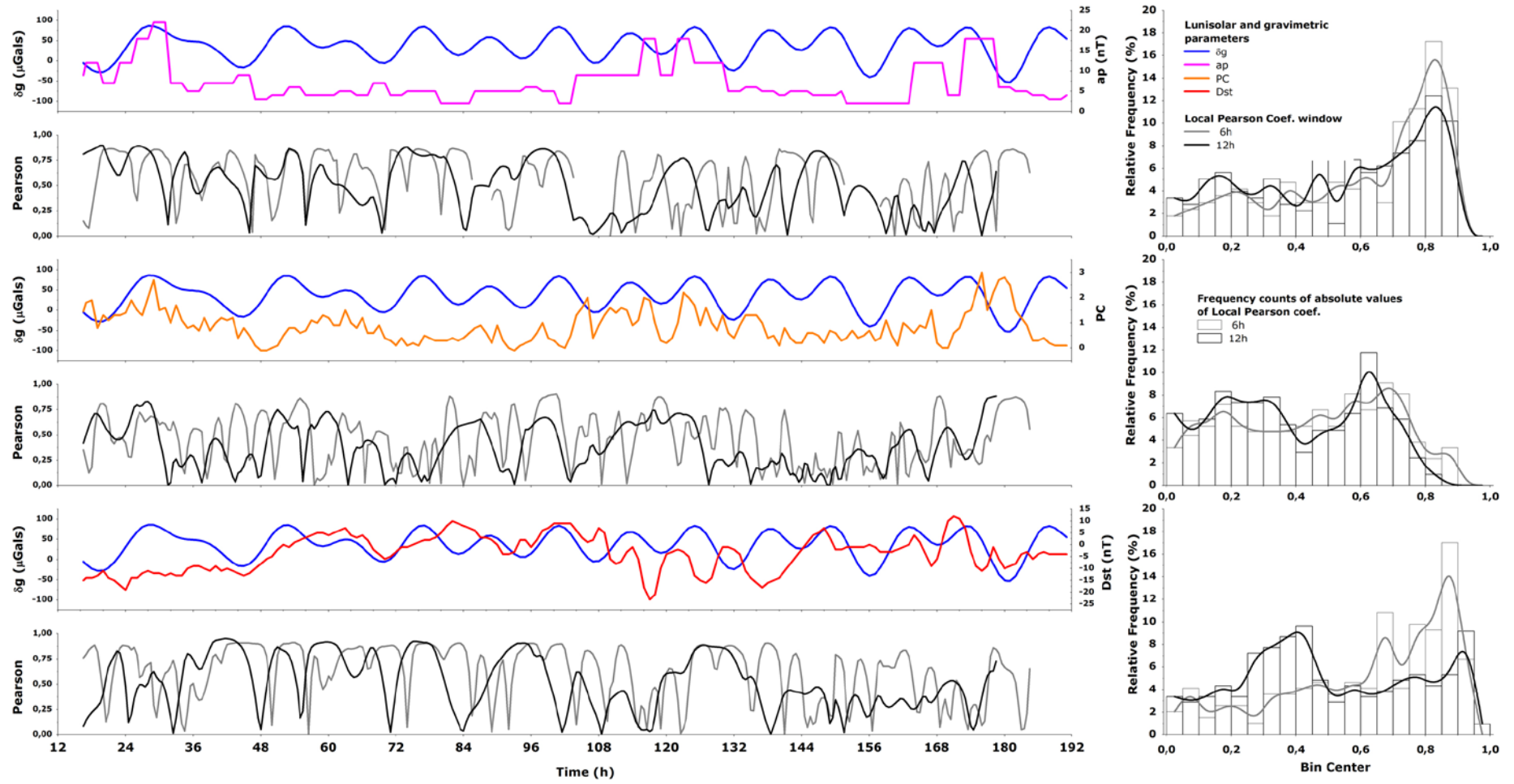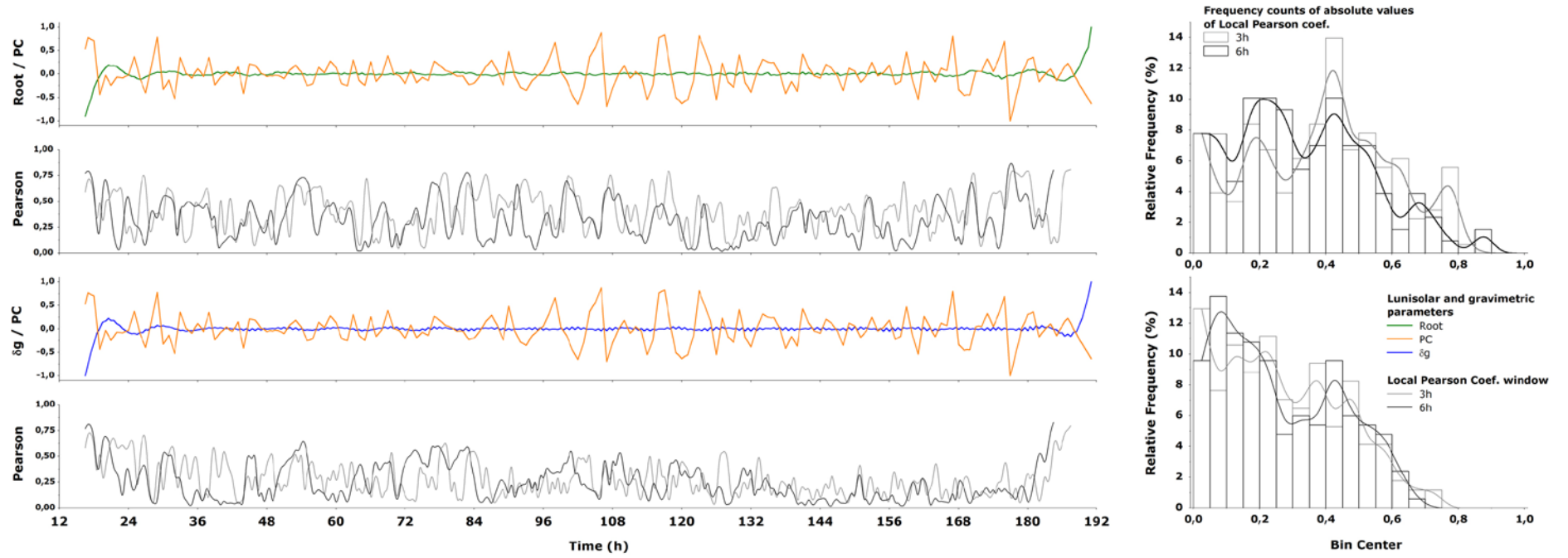
(A)

FIG. S2. (B)

FIG. S2. (C)

Fig. S2. (D)

FIG. S3. The various panels (A–D) are similar to those in Fig. S1, except that the results refer to analyses of data obtained from experiment number 3, shown in Fig. 3 of the main text. Time series commenced 13/04/2012 and concluded 22/04/2012.
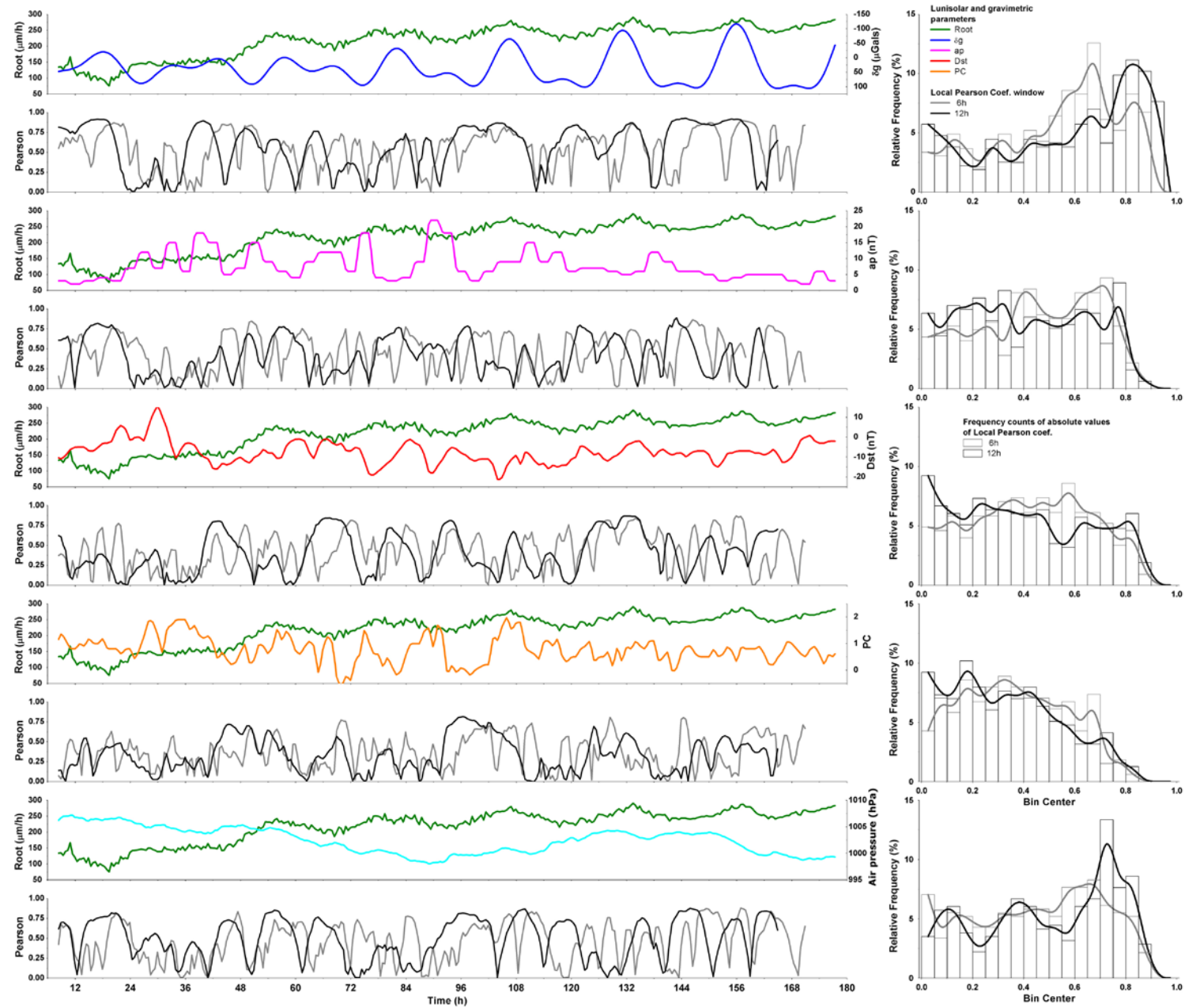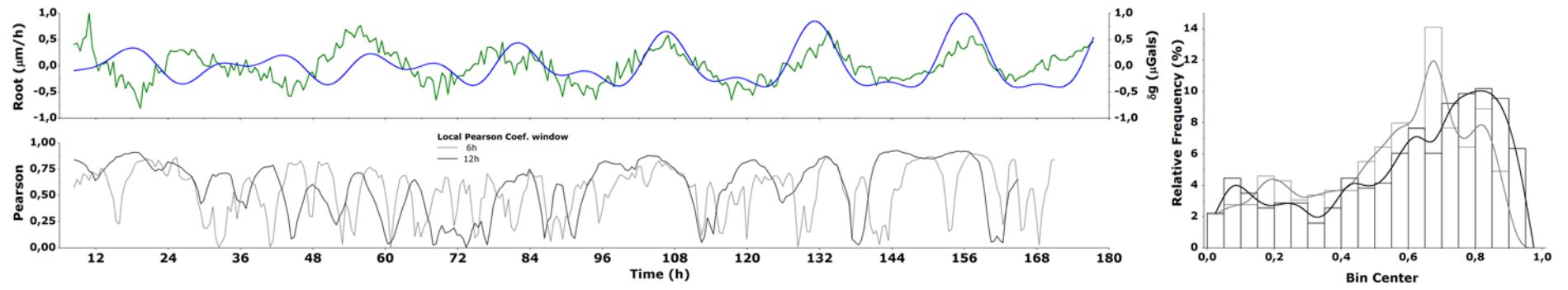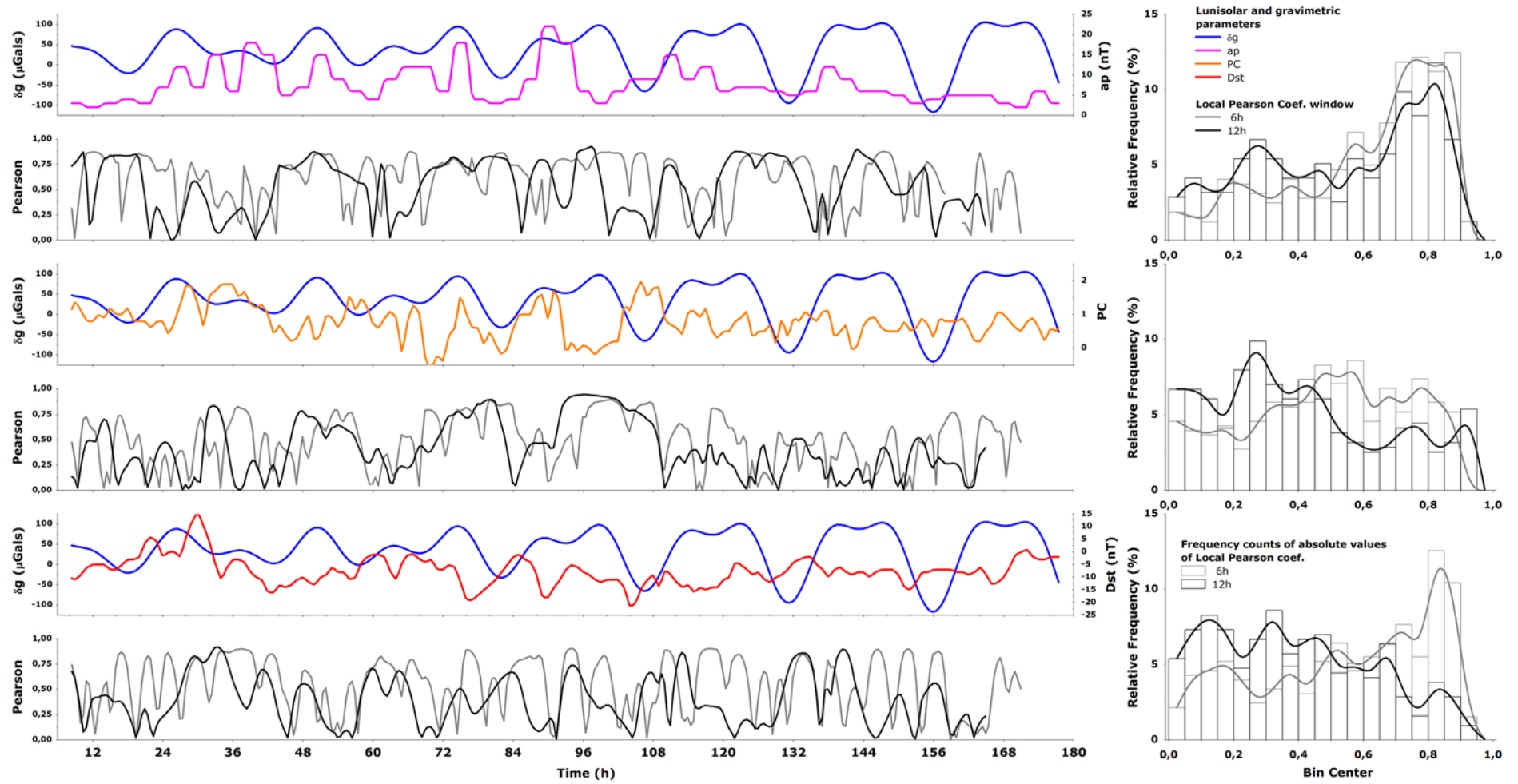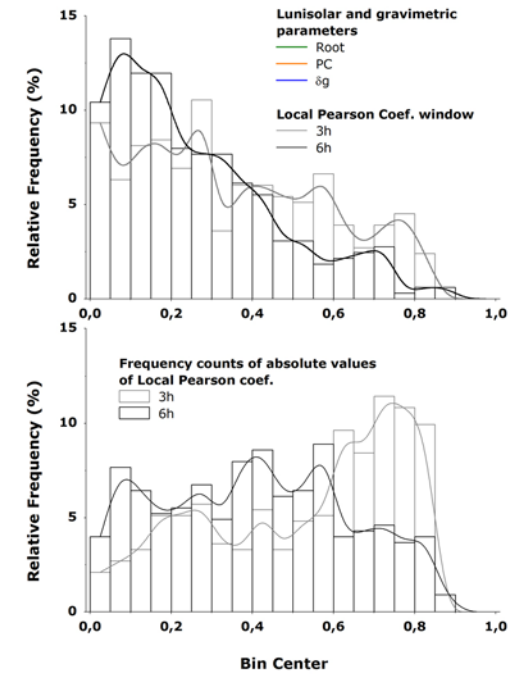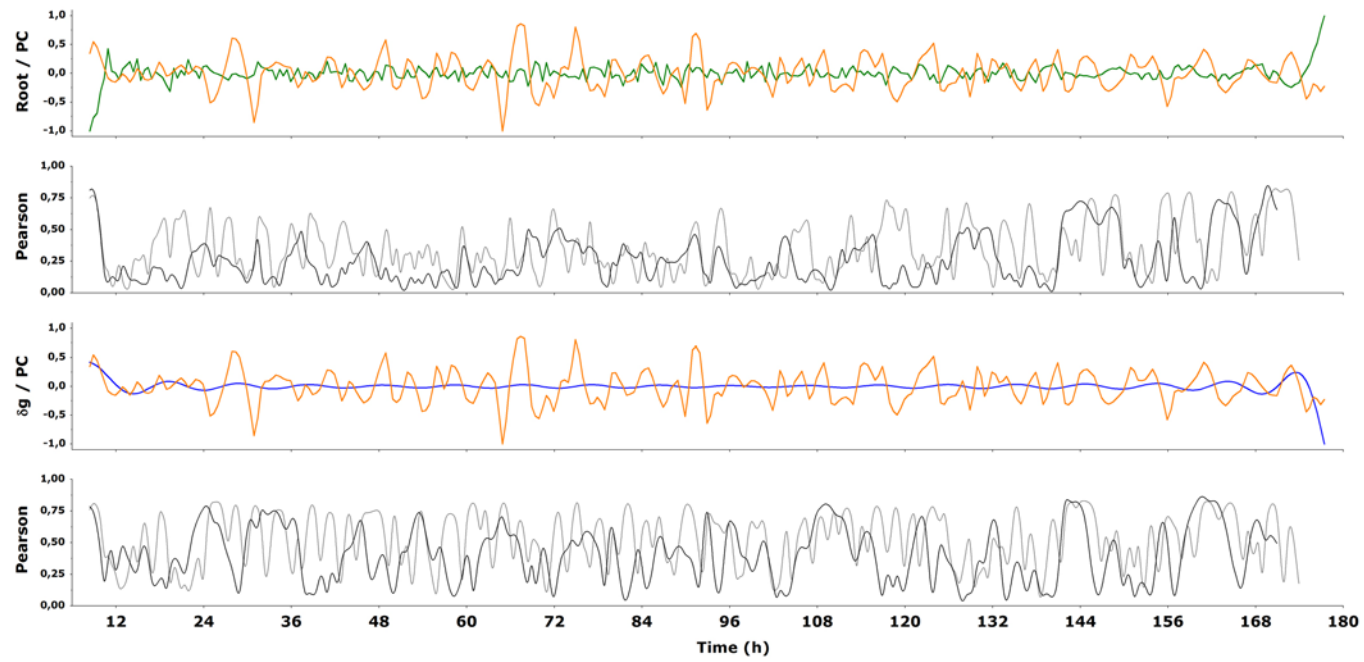
(A)

FIG. S3. (B)

FIG. S3. (C)

FIG. S3. (D)

FIG. S4. The various panels (A–D) are similar to those in Fig. S1, except that the results refer to analyses of data obtained from experiment number 1. Time series commenced 19/01/2008 and concluded 22/01/2008.
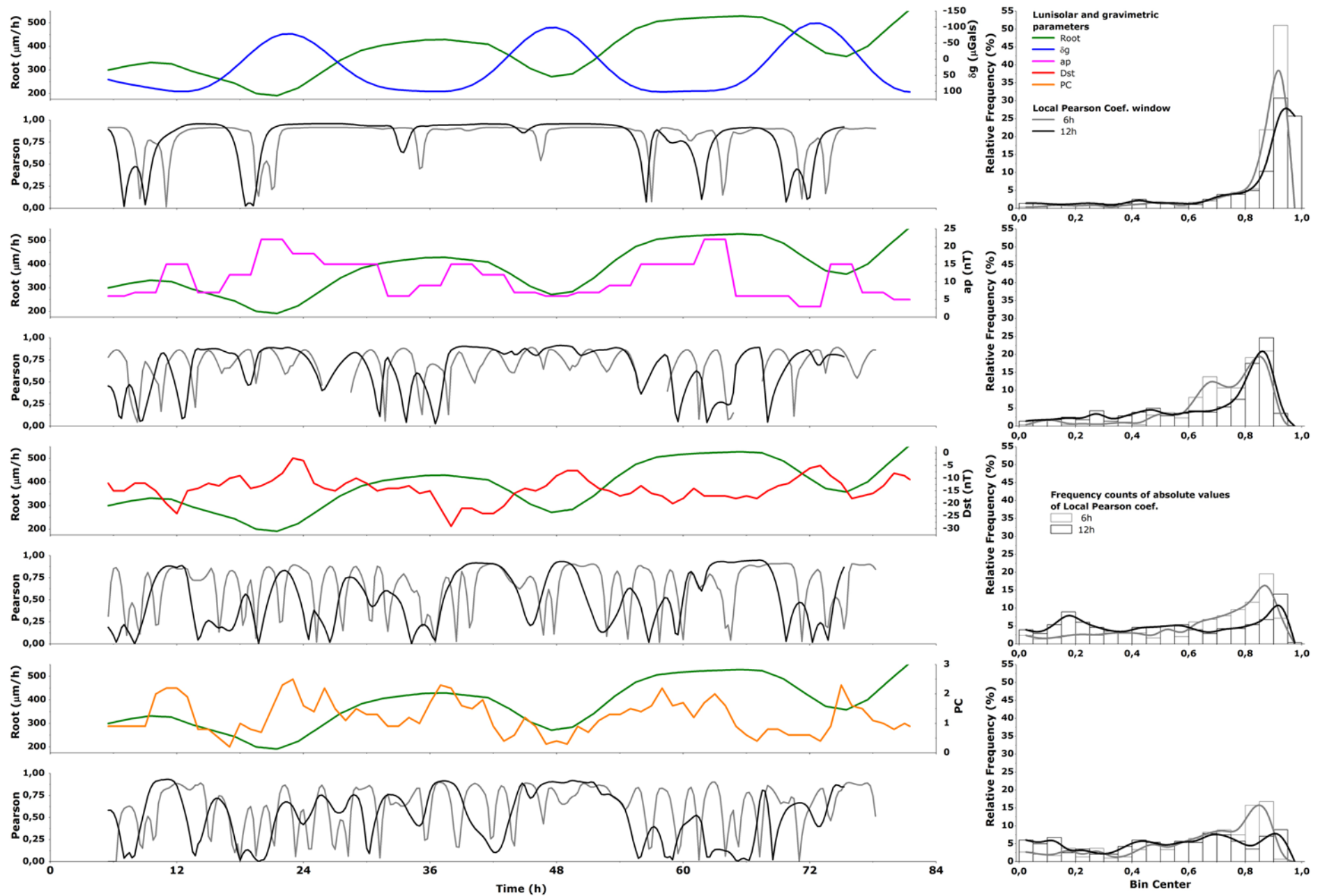
(A)

FIG. S4. (B)
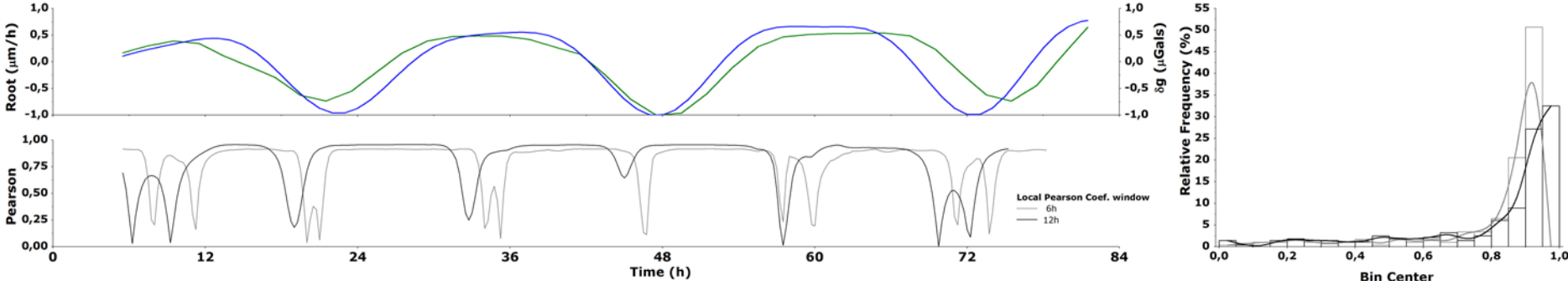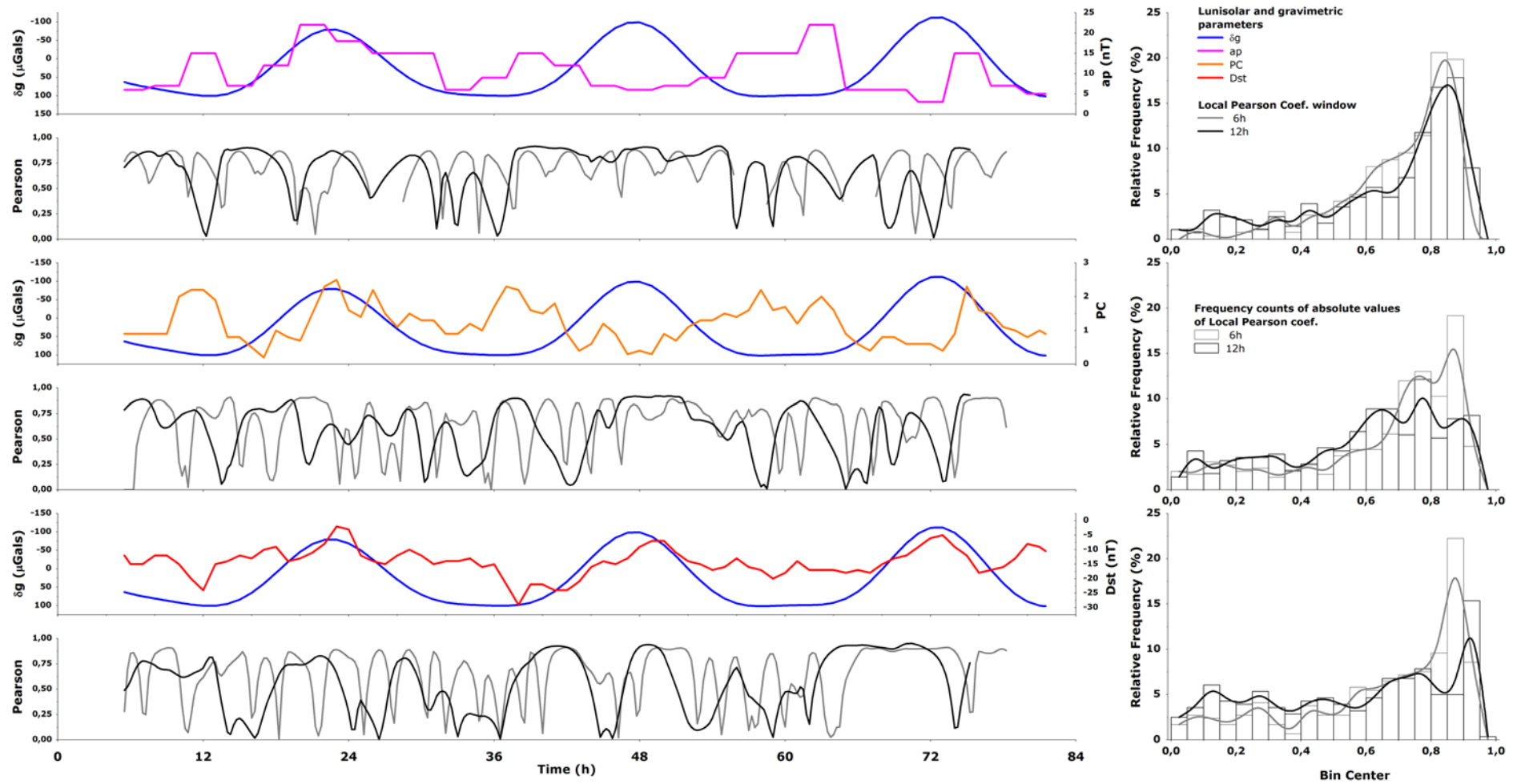
FIG. S4. (C)

FIG. S4. (D)