PPV plots

Figure 1 shows an example of the plots generated by the code.

As a reminder, there are three signals in Figure 1, the red line indicates arterial pressure, the blue dashed-line corresponds to airway flow and the black dotted-line corresponds to pressure support. The values of flow and pressure support were modified in order to match with the arterial pressure values. Flow values are in liters/min +70, pressure support values are in cm H2O times 10, and arterial pressure values are in mm Hg. The black star indicates the maximum pressure support level, measured for each breath.

The red and blue squares indicate the systolic arterial pressure values. The red squares correspond to the systolic pressure at the inspiratory phase, whereas the blue squares correspond to the systolic pressure at the expiratory phase. Filled squares correspond to the maximum value of systolic pressure, and blank squares with either blue or red contour correspond to the minimum value of systolic pressure.

The green line connects the minimum inspiratory and maximum expiratory systolic arterial pressure (d4), and the magenta line connects the maximum inspiratory and minimum expiratory systolic arterial pressures (d3). These lines are plotted when the heart-rate to respiratory frequency ratio is >3.4, and the difference between systolic and diastolic pressure is above 20 mm Hg and less than 80 mm Hg.
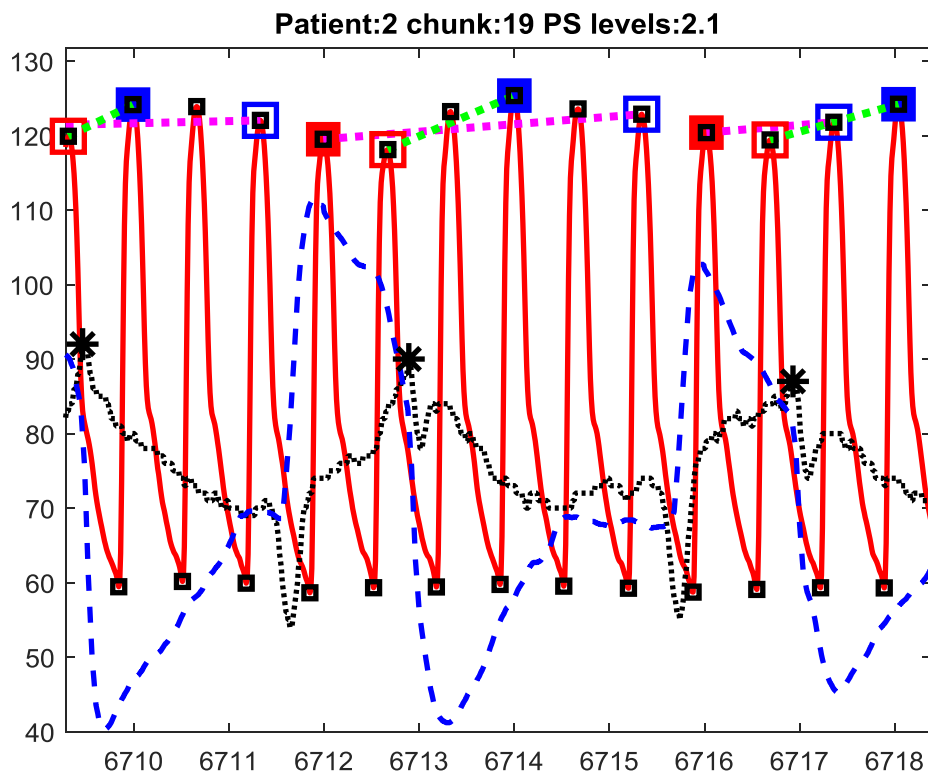

Figure 1.

In addition, I included in the code 3 plots that summarize d3 and d4 when FR/HR>=3.4 and the systolic-diastolic difference is higher the 20 and less than 80. Figure 2 and 3 show d3 (black circles) and -d4 (blue squares), plotted against time and pressure support level, respectively. Figure 4 shows Pmus_surrogate against d3 (black circles) and –d4 (blue squares).
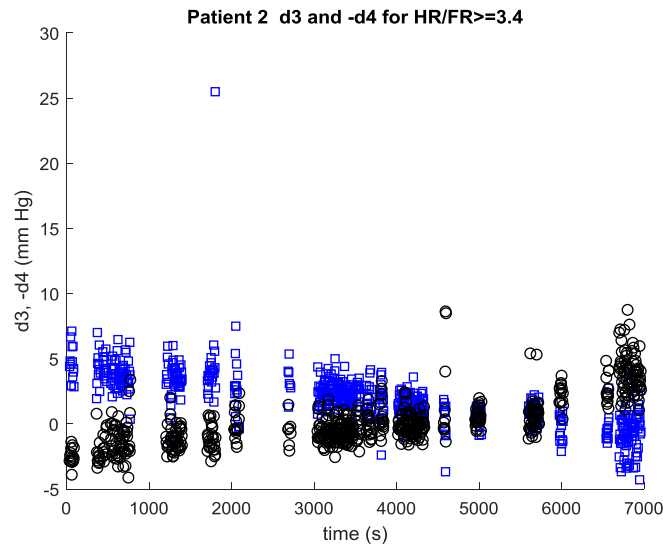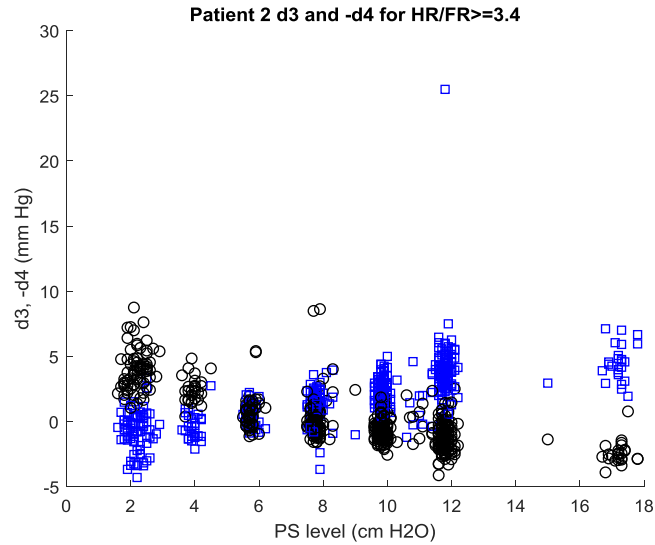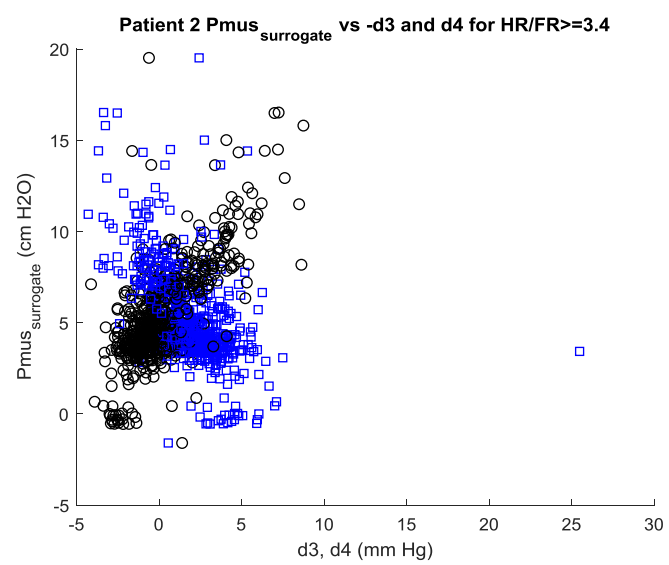

Figure 2.

Figure 3.

Figure 4.