1. Execute the app.
2. Place yourself in the “LOAD FILES” tab.

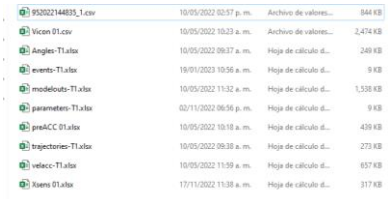
3. Click the “LOAD FILES VICON” button.

4. Select the Subjects folder.

5. Select the subject’s folder to be evaluated.

6. Select the evaluation’s folder to be observed, in which the Vicon and Xsens files are contained.

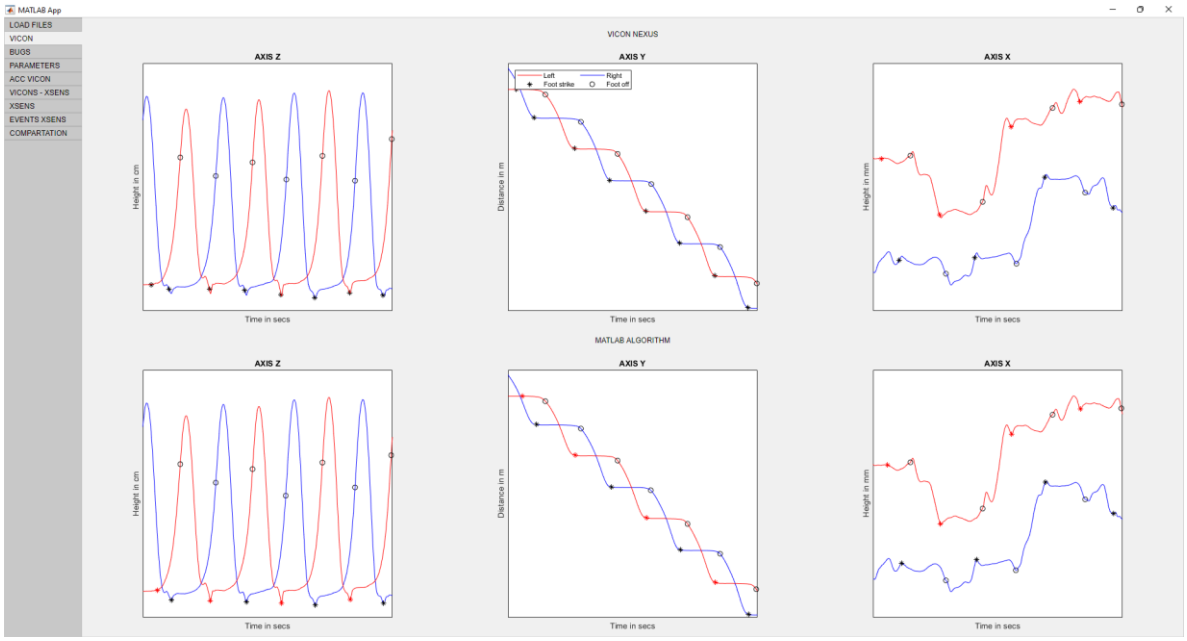
   The files contained in the folder should be the next ones:



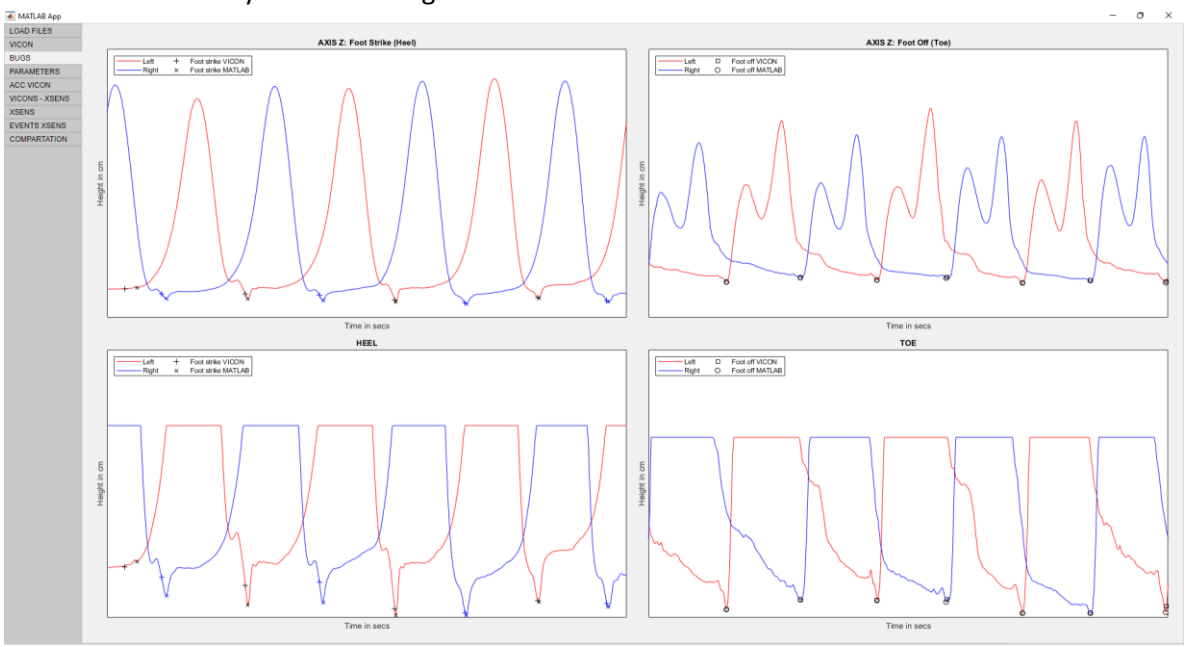
2 .csv files and 8.xlsx files. The Vicon 0#.csv file contains all the Vicon exported information, while the other .csv file contains the Xsens IMU's information. For the case of the.xlsx files, the Angles-T#. xlsx file contains the segments goniometry information from Vicon, the events-T#.xlsx file contains the manually obtained events from Vicon, the modelouts-T#.xlsx file contains the absolute angles (taking the laboratory as reference system), ass well as the force plates, the parameters-T#.xlsx file contains the gait parameters, calculated directly by Vicon, the preACC 0#.xlsx file contains the Xsens information, in a different format, trajectories-T#.xlsx file contains the positions, velocities and accelerations of each marker, the velacc-T#.xlsx file contains the positions, velocities and accelerations of each segment, at last the Xsens 0#.xlsx file contains the temporally bounded information, from Xsen's accelerometer and gyroscope.

7. If everything is in order, the three lights will change its colour from red to green (NOTE: the lights represent, in descending order, Vicon's events and trajectories, Vicon's acceleration and Xsen's files).

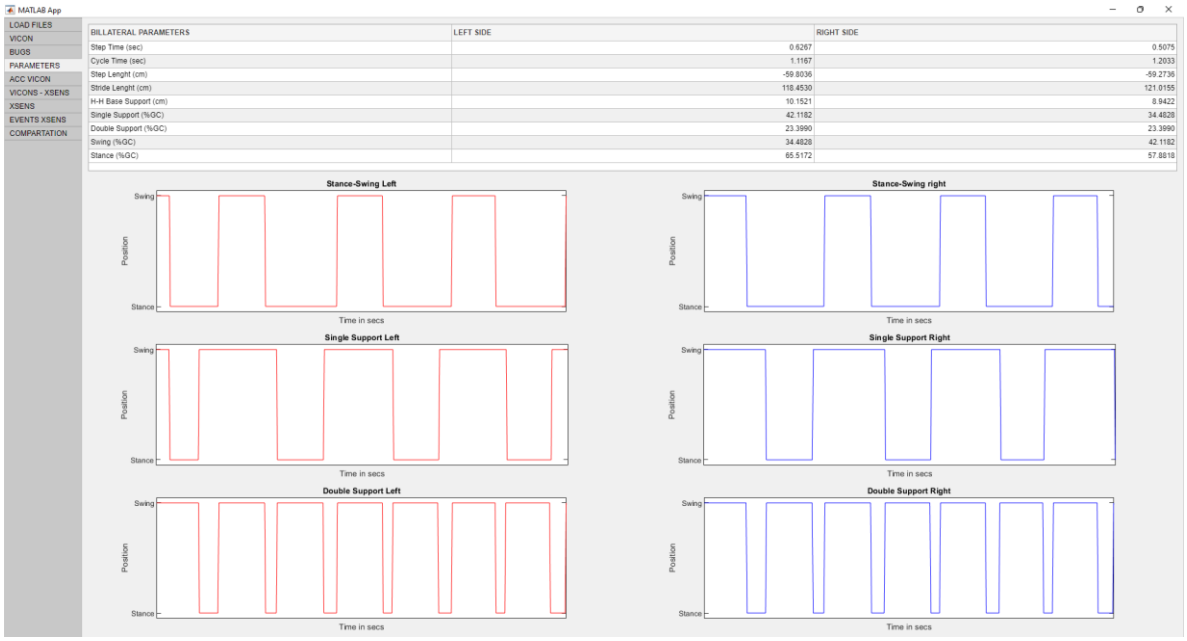
8. In the "VICON" Tab can be seen the feet's trajectories plots from Vicon in the three axes, locating on them the manually obtained events and the ones obtained by the Matlab algorithm.



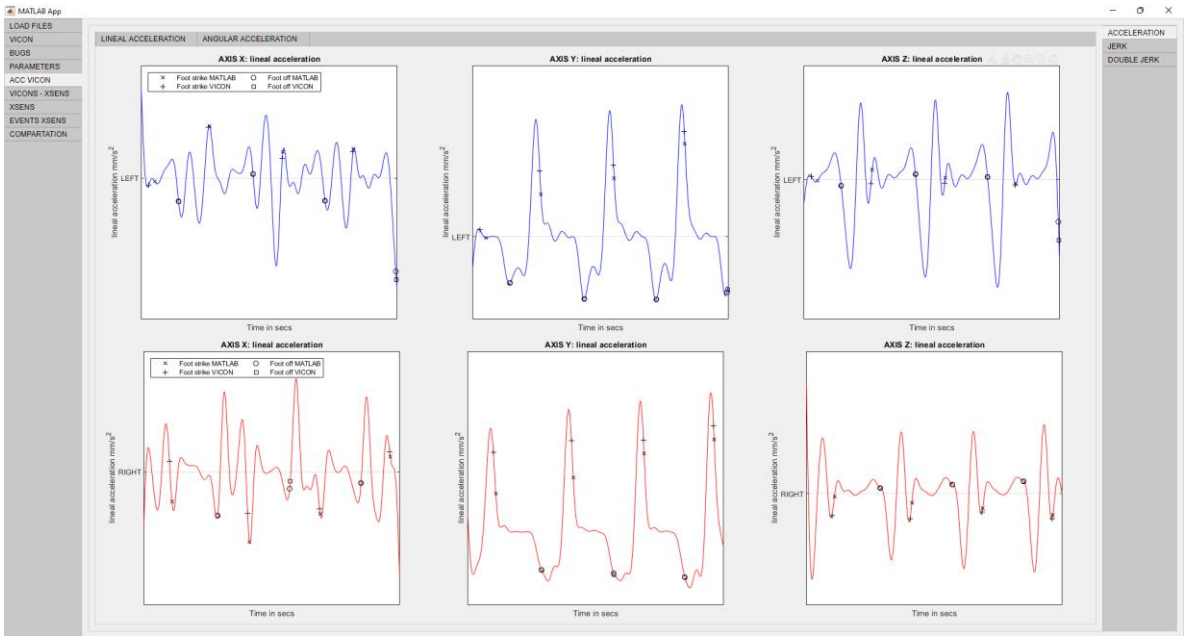
9. In the “BUGS” Tab can be seen the trajectorie’s plots on the Z axis from the markers placed on Toe and Heel, obtained by Vicon, locating on them the manually obtained events and the ones obtained by the Matlab algorithm.



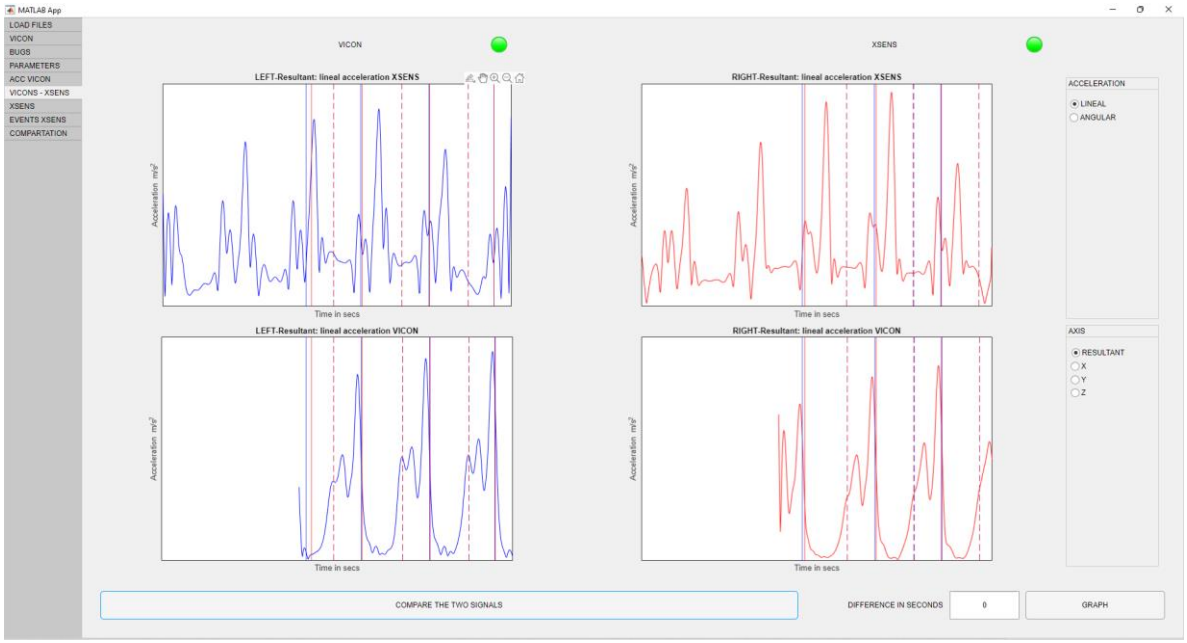
10. In the “PARAMETERS” Tab can be seen the gait parameters calculated from the Vicon signals.



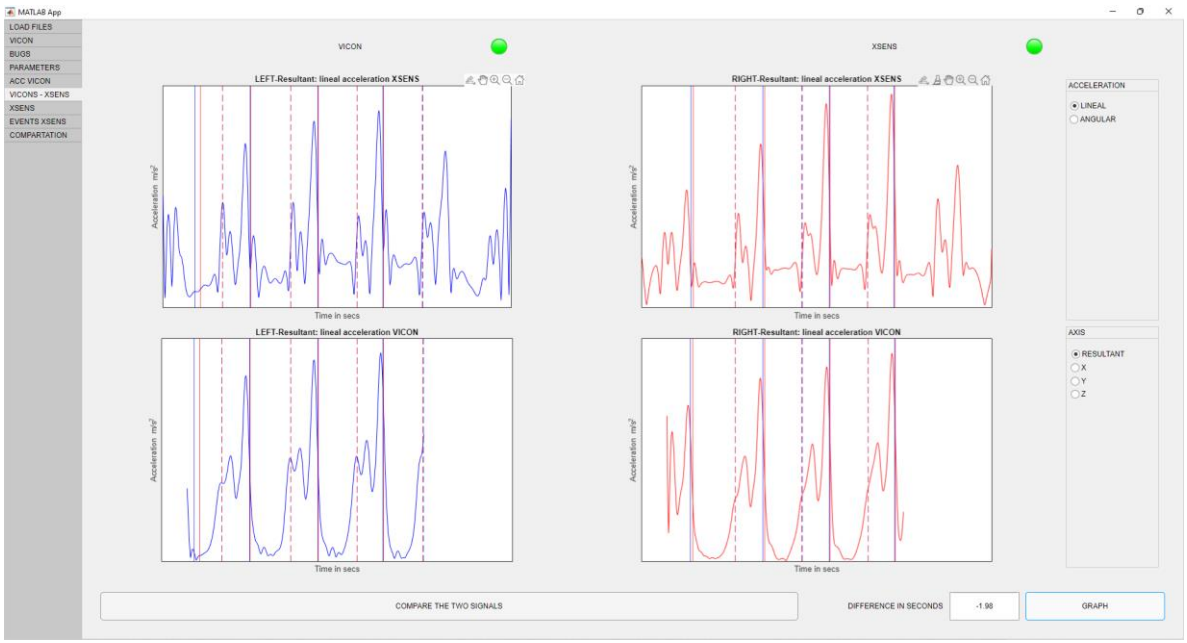
11. In the “ACC VICON” Tab can be seen the lineal and angular accelerations, Jerks and Double Jerks, from Vicon, marking the manually obtained events and the ones obtained by the Matlab algorithm. According to the signal you want to see, click on the different subtabs.



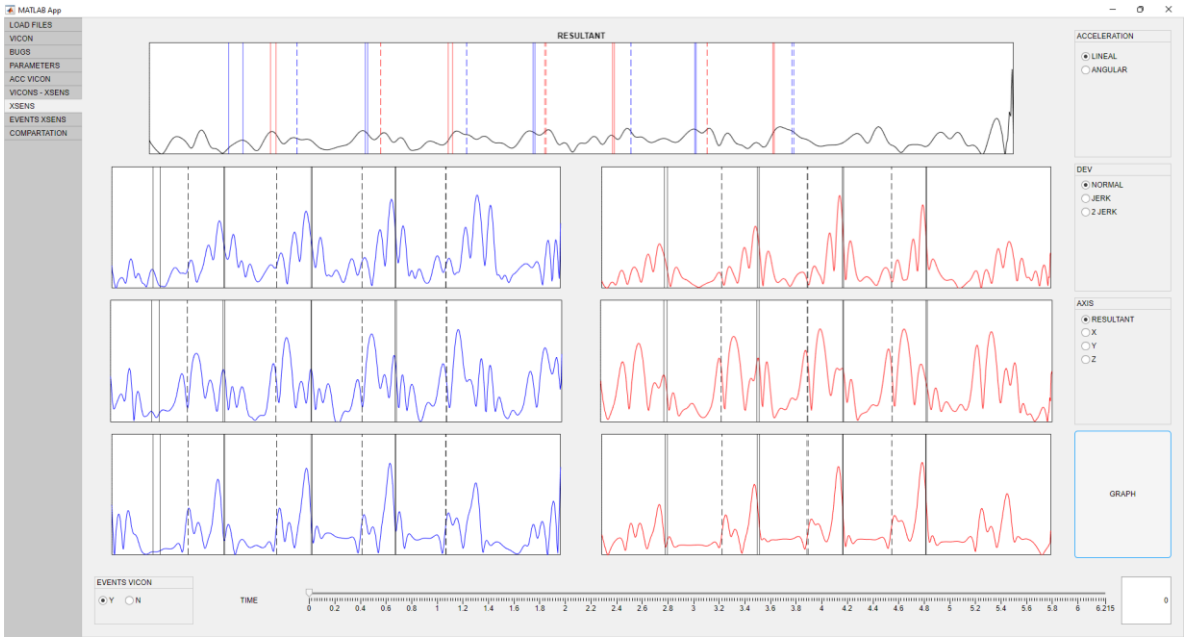
12. In the “VICON-XSENS” Tab, click the “COMPARE THE TWO SIGNALS” button to see the Vicon and Xsens plots (NOTE: in case the Vicon plots don´t show into the graphic limits, its due to the time lag being too large).



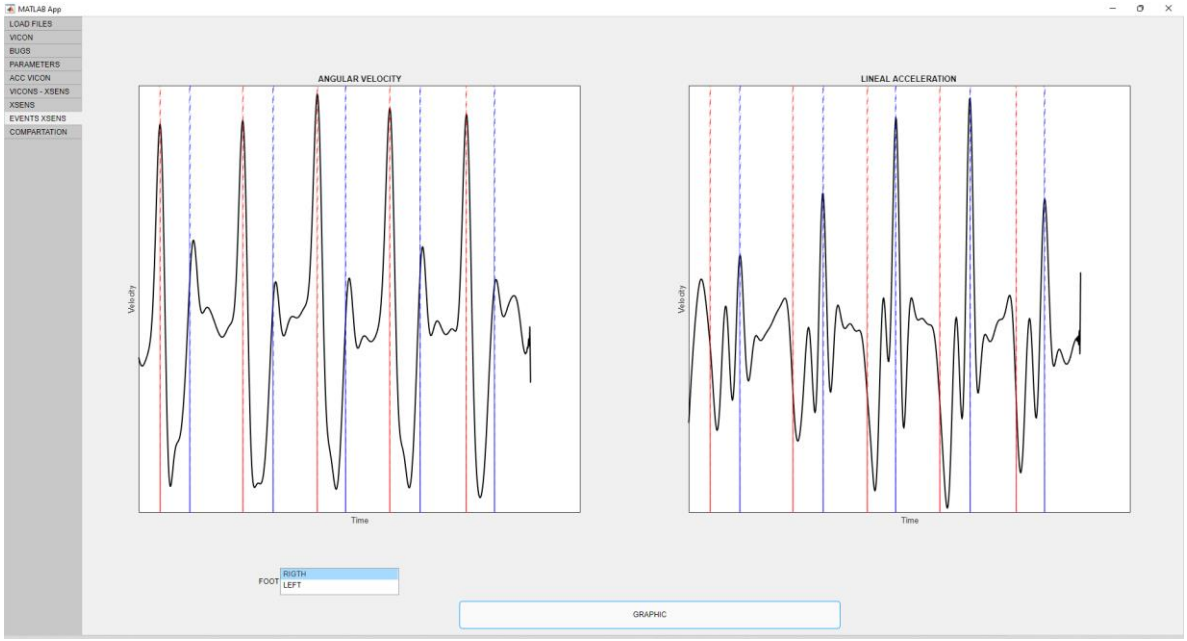
13. To correct the time lag, click the “GRAPH” button, the signal will be delayed and at the same in the “DIFERENCE IN SECONDS” square the seconds that the signal was delayed are shown.



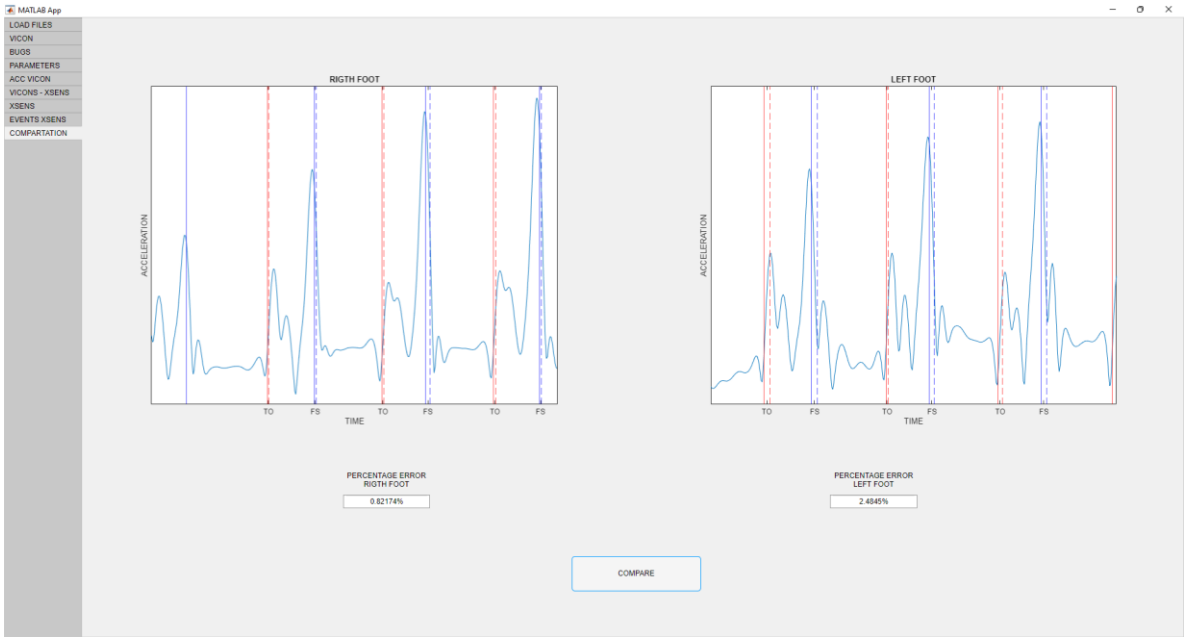
14. Once you have the appropriated delay, in the “XSENS” Tab select in the “EVENTS VICON” square the Y option and click the “GRAPH” button, that will show the Vicon events on the plots.



15. In the “EVENTS XSENS” Tab the events obtained from the Xsens signals are shown, calculated from the angular velocity signal for the Toe Off event and from lineal acceleration for the Heel Strike event, both from the Xsens placed on the feet the user can choose in which foot the detection is going to be shown.



16. In the “COMPARATION” Tab the Resultant plots from both Xsens placed on the feet are shown, marking the events obtained from Xsens signals, as well as the ones obtained from Vicon, the percentage error in the event detection in each foot is also shown.



17. In the “LOAD FILES” Tab, click the “RESET ALL” button to clear all the graphics and to test with different files (it takes a few seconds).