**GENERAL COMMENTS**

The manuscript entitled “Pelvis-Trunk coordination differs across movement distance during tennis forehand compares pelvis-trunk coordination in forehand strokes executed with different movement distances”. It also studies the relationship between kinematic variables of trunk rotation and ball velocity. It seems to be a good work that uses a complex biomechanical marker model and advanced statistics. However, before being published there are a number of issues that need to be improved/clarified.

**MAJOR REVISIONS**

Better justify the methodology used. For example, the concept of "dominant pelvis angle" is not very well understood. It is rather the hip angle, isn't it? If it is a concept other than hip angle, it should be explained by adding a clarifying figure. For example, doing a search on Google Scholar for "right pelvis angle" only 8 papers appear and none of them seem to talk about throwing or hitting tasks.

If the objective is to analyse intersegmental trunk-pelvis coordination, the second objective should not be to study the relationship between rotation and racket speed. This result can be commented on and discussed but I do not think it should be included as a main objective as it confuses and distracts from the main objective, which is very different.

Further references to studies examining the effects of pre-hitting distance on coordination in tennis or other racket sports strokes should be included in the introduction.

Falta justificar varios procedimientos incluidos en el apartado de metodología (lo indicaré en las revisiones menores).

**MINOR REVISIONS**

**Title**

The concept of Movement Distances seems not very explanatory. Perhaps a more informative term could be found (pre-hitting displacement or something like this?).

**Abstract**

Line 10. Indicate in a few words what ANOVA with Statistical Parametric Mapping was used for.

Line 15. Instead of talking about minimum distance, which is a concept that has not yet been explained and is therefore not understood, it would be better to talk about shorter distance (in general terms).

Line 16. Do not include data regarding the correlation between CRP and racket speed, as this is not the main objective of the study.

Lines 27-29. Then in the discussion there is little mention of strategies for improving coordination.

In general I see too many results in the abstract (the information should be synthesised).

**Introduction**

Line 33. Check expression “on the move”.

Line 38. Check expression “entry speed”.

Line 44. Do not anticipate and do not mention the study variables (“ a key variable in this study”).

Line 57. Check expression “bloqued rotation”.

Line 59. Check expression “differentiated rotation”.

Line 67. Clearly define what the X-factor is.

Line 72. Explain what the continuum relative factor is.

Line 73. What explanation do the authors give for the hip velocity being greater than the trunk velocity? The principle of angular velocity summation does not occur.

Line 78. CRP change from to positive. This has not yet been explained and the reader cannot understand what the authors are referring to.

Line 81. Very little is said about studies that analyse pre-hitting displacement distance on coordination (being the main objective of the study).

**Methods**

Line 95. Did the players train 20 hours a week? This is the number of hours of training for a professional.

Line 101. On what basis was the r set at 0.7.

Line 110. To clarify that it was done in a laboratory, simulating the distances of a tennis court (it would be very interesting to put a photograph with the experimental set-up).

Line 115. Reference studies using this machine

Line 116. “Standarized rotation” What was the speed of rotation?

Line 118. The tennis court is more than 6 metres long (almost 12 metres from the baseline to the net). Were they attacking shots?

Line 120. Femoral trochanter to what other reference point? Why this distance? Justify.

Line 123. Why you take 100, 75 and 50% of the movement distance? Justify.

Line 124-125. Better to include in the results section.

Line 126. What you refer with “formal”?

Line 130. Which marker model was used, e.g. justify with a reference. Include a photograph of the model used.

Line 137. Why were the launch intervals random? Justify.

Line 138. Why players hit in an open position in the down the line direction. Justify.

Line 142-143. How was this done? By modifying the launch angle of the machine?

Line 154. Why was a 6 Hz filter used? It seems rather low (the study they cite is about jumps and not about tennis strokes).

Line 157. Trunk angle relative to the pelvis?

Line 166. The video recordings were synchronised with the 3D?

Line 181. For future studies it is best to include the biological variability (is easy to calculate and takes into account the variability of the measure).

Line 192-196. To determine […] at each movement distance. This sentence is misunderstood and a little surprising.

Line 198. Explain a little about SPM.

Line 206. Explain the concept of "suprathreshold cluster". I think this is the first time it has been used.

Line 217. The page where the code is available is mentioned again at the end of the manuscript. Perhaps it can be removed from here.

Is it a study of intra-subject comparisons? Mention.

**Discusión**

I think the discussion does not say much about the main objective of the study (as occurs in the introduction).

Line 256. There was a dispropotionate change in… This sentence is not well understood.

Mention study limitations. For example, hitting accuracy was not studied.

Line 275. Revise expression penultimate step.

Line 300. "The trunk on the dominant side" I do not understand this concept.

Line 315. From the title, Brito's study seems to be about long and short rallies rather than long and short distances. Clarify.

I don't see any limitation section.

**Conclusions y Key points.**

Both sections seem to me to be too long. Summarise.

Line 420. In addition to pre- and post-acceleration phases, what other phases have been studied?

Line 433. Based on the methodology used, I believe it is not correct to include this as a Keypoint.