

Report on the article

“Tactic-proximal compact spaces are strong Eberlein compact”

In this paper, the author introduces several topological games motivated by Bell’s proximal game. The properties of these games and their relations are also investigated. One of the interesting applications is that, the author shows that a compact space is strongly Eberlein compact if and only if it is tactic-proximal. Overall, it is an interesting paper which deserves to be published.

I would recommend paper to be accepted after some minor modifications.

- 1 In Definition 2.1 and 2.2, the natural number k only appears in the name of the game, not in the statement of the definition. I would guess that the strategy considers only the most recent k moves of the opponent.
- 2 In Definition 2.9, 2.15, and 2.25, it says ‘when $X_\alpha = X$ and $z(\alpha) = 0$ ’. I am not sure what the author means by that. If X is a topological space not the real line, what is the ‘0’ in it?
- 3 In paper 7, ‘ Σ^* ’ product should be ‘ Σ^* -product’.
- 4 I would suggest that the author make the game names ‘ $Bell_{D,P}^\rightarrow$ ’ and ‘ $Bell_{D,P}^\rightarrow$ ’ more distinguishable. It took me some time to figure out the difference. For example, in proposition 2.3 and 2.4, everything are exactly same except for arrows. Other readers might also feel lost in the notations.
- 5 The author also uses ‘ $\Sigma_{\alpha < \kappa}^z * X$ ’ in several places in section 2.2. This notation doesn’t make sense to me, because the index α is listed with no usage. The author could use ‘ $\Sigma_\kappa^z * X$ ’ instead of ‘ $\Sigma_{\alpha < \kappa}^z * X$ ’. Similarly, $\sigma_{\alpha < \kappa}^z X$ in section 2.3 is a bad notation too. I would suggest the author to change the notations.
- 6 In Example 3.1, a reference should be provided for the reason why $\mathcal{D} \not\preceq Bell_{D,P}^\rightarrow(X)$ for non-scattered compact metric space.
- 7 In the 7th line from the bottom on page 10, one of the ‘and’ should be deleted.
- 8 In section 2.1, there is no result regards to Corson compacta. This section serves as a motivation of section 2.2 and 2.3. I would suggest that the author rewrite this section to make it a short summary on previous results about Corson compacta. It seems to me that it is not necessary to make it an independent subsection.

9 In the proof the Corollary 2.33, only one direction of the proof is given. A reference of previous results or some short arguments should be given.