

In the paper under review, the authors explicitly describe dominance regions  $\mathcal{P}_\lambda$  for rank-2 cluster algebras (in the case where  $bc \geq 4$ ) and give an interpretation of the dominance polygons in terms of generalized minors in the untwisted affine case. The results and proofs appear to be correct. The exposition is terse but generally clear (there are some places where additional description and/or explanation would be helpful, detailed in the following comments). The results are likely to be interesting to those working in this area and represent a useful contribution to the literature, despite the largely mechanical nature of the proofs. Hence, it is my opinion that the article is worthy of publication.

The following are some minor comments/questions, many of which are directed towards the exposition. All comments are relatively minor.

1. It would be nice for the introduction to include some description of why determining these dominance regions is interesting, particularly for the non-expert reader.
2. In Equation (1), the authors do not specify where  $\rho_{\alpha_0, \alpha_1}$  lives. Although this is familiar to experts, it is probably worth including for readers who are less familiar with cluster algebras.
3. In Remark 1.3, is it possible to be more precise about what “most” means? Are there any apparent patterns in which coefficients are non-zero?
4. The notation  $[x]_+$  is not defined anywhere in the paper. Although this is fairly common notation, it is probably worth defining in case the reader is not familiar with it.
5. When the imaginary cone  $\mathcal{I}$  is defined, it would be nice to include a comment about why it has this name (especially because we are assuming that  $bc \geq 4$ , so  $\sqrt{bc(bc-4)}$  is always real). It might also be helpful for the authors to mention that they later refer to lattice points in this cone as “imaginary.” Presumably this name comes from the fact that the lattice points inside  $\mathcal{I}$  are not  $g$ -vectors of cluster monomials? Or is there other significance to the name?
6. Do the authors have any intuition for why the coincidences mentioned in Remark 1.5 occur? If so, it would be interesting to include that intuition in this remark.
7. In the caption for the set of figures on page 5, it would be helpful to add more description of the diagrams - i.e., that  $\lambda$  appears as the fully shaded point,  $\mathcal{I}$  is the dotted cone, the shaded cone is the cone containing  $\lambda$  (or does it have more meaning than that?), etc. I am confused about why one vertex of  $S_\lambda$  is distinguished from the others; it might be helpful to remark about this as well, especially because that style of point is often used to display points that aren’t included in a set (but based on the statement of Theorem 1.6, I believe this distinguished point is included in  $S_\lambda$ ).

8. For the figures on page 11, it would again be useful for the authors to include a caption with a brief description of how to read the figure. While it is relatively simple to figure out what the shaded regions indicate, an explicit description may help avoid any potential for confusion.
9. Is there a reason that the figures haven't been numbered so they can be referenced explicitly? For example, the set of figures on page 5 is referenced much later on page 18 as "the figure in Theorem 1.6", which seems like a very roundabout way to reference a figure.