The authors of `2312.16635` use their public reinterpretation code `SModelS` to study the LHC constraints on the EW-ino sector of the MSSM, combining 16 analyses from ATLAS and CMS with a procedure recently introduced in the latest version (`2.3`) of the code. They consider a sample of about 18000 points in the MSSM parameter space, for which the mass spectra and the branching ratios are computed with `SoftSUSY`, and the EW-ino production cross sections are computed with `RESUMMINO`. They identify the regions of the parameter space that are excluded by individual analyses – for which they distinguish, point-by-point, the most sensitive and the most constraining – then they show how the combination of multiple analyses not only extends the overall exclusion reach, but also smooths out the fluctuations of the background that might affect individual analyses. This applies in particular to the two fully-hadronic searches that constrain the high-mass region, namely ATLAS-SUSY-2018-41, which records an under-fluctuation and is thus more constraining than expected, and CMS-SUS-21-002, for which the opposite occurs.

I find the subject of `2312.16635` timely. While some of the topics – namely, the combination procedure, its advantages, and the reach of the two fully-hadronic searches – have already been discussed by the same authors in ref. [14], I find that the combination of multiple analyses in `2312.16635` provides sufficient new material to justify an independent publication. The paper is well written, and in particular the plots in section 5 show a pedagogical quality that helps the reader grasp the hidden dynamics of the combination. There are however two aspects of `2312.16635` that I think should be improved before the paper can be accepted for publication in SciPost:

- If I understand correctly, the full statistical model for the analysis ATLAS-SUSY-2018-41 had been available for several months before the completion of `2312.16635`, but the authors relied only on a trivial combination of three V-inclusive signal regions that are described by ATLAS as statistically independent. In a footnote on page 12, they write that the *"implementation and validation [of the full statistical model] in* `SModelS` *is ongoing."*. Now, from the validation plots in figures 6–8 it would seem that the agreement between `SModelS` and the "official" LHC results is somewhat less good for ATLAS-SUSY-2018-41 than for many of the other analyses considered in `2312.16635`. In particular, the lower plots of figure 6 indicate that the `SModelS` reinterpretation of that analysis – which, as mentioned above, is affected by an under-fluctuation – is even more constraining than the official result. In view of the central role that ATLAS-SUSY-2018-41 and its inflated constraining power play in the discussion of section 5, it would seem preferable to me that the authors complete the implementation of the full statistical model, and make sure that `SModelS` reproduces as closely as possible the ATLAS result.[1]

- On page 17, the authors tout the use of `RESUMMINO` for the NLO computation of the EW-ino production cross sections as *"an important update with respect to [their earlier analyses in] refs. [13,14]"*. First of all, I wonder if the cross sections are really computed at the NLO, or rather at the NLO+NLL as in figure 1, exploiting the full potential of `RESUMMINO`. Most importantly, the authors do not seem to discuss anywhere in the paper the impact of this update on their analysis. I suggest that they try to produce plots analogous to the bottom ones in figures 17 and 18, showing the points whose exclusion status changes when the accuracy of the cross-section computation is improved. Even if it turned out that no points at all change their status, a comment on this fact would still be helpful.

[1] Note that a similar discrepancy in the validation of ATLAS-SUSY-2019-08, see the top-right plot of figure 7, was viewed by the authors as grounds for using the (significantly more time-consuming) full statistical model rather than a simplified version.

In addition, there are a few minor issues that the authors should address:

- After eq. (3), I would define $\tan\beta = v_u/v_d$ rather than $\tan\beta = v_2/v_1$, for consistency with the notation used for the higgsinos.
- The color code in figure 2 is not explained in the caption. I suppose that blue means neutralino and red means chargino, but what does it mean when blue is on top of red or vice-versa?
- On page 7 and again on page 35, describing the higgsino-like states $\tilde{\chi}^0_{1,2}$ and $\tilde{\chi}^\pm_1$ as *"a triplet"* seems confusing to me. After all those (four) states come from the combination of two $SU(2)$ doublets.
- On pages 15 and 16, the authors should mention explicitly that the last two CMS analyses are for the full Run-2 dataset.
- On page 17, the authors write that they fix the SUSY-breaking parameters for sfermions and gluino to 10 TeV, *"assuming that the stop-sector parameters can always be adjusted such that $m_h \approx 125$ GeV"*. Then they write that *"The mass spectra and decay tables were computed with* `SoftSUSY`." Now, if all of the SUSY-breaking parameters that do not affect the EW-ino masses are kept fixed, the prediction of `SoftSUSY` for m_h varies significantly with $\tan\beta$, and to a lesser extent with the EW-ino mass parameters, when the former is varied between 5 and 50 and the latter are varied between 10–100 GeV and 3 TeV. The variation of m_h in turn affects the branching ratios of the EW-ino decays in eqs. (7)–(12). The author should clarify whether they have overridden the Higgs-mass prediction of `SoftSUSY` and forced the code to use $m_h = 125$ GeV in the calculation of the branching ratios of the EW-ino decays.
- The color code of figure 23 could be improved. The colors that the authors call *"dodgerblue"* (huh?) and *"steelblue"* are barely distinguishable on screen and essentially indistinguishable when printed on paper.