This manuscript addresses the spatiotemporal dynamics of surface shear stress partitioning around individual shrubs in drylands. They use high-quality field measurements with dense Irwin sensors across two years and three phenological phases, providing direct observations of shear velocity that are rare in the literature. The data are well calibrated, the analyses are statistically sound, and the main findings are robust. The primary finding is that the surface shear stress ratio *R'* is independent of wind speed but shows a significant decreasing trend with foliar growth—challenges conventional drag-partitioning theory and has important implications for process-based wind erosion modeling. While the study is limited to a single shrub, it provides a valuable empirical dataset and a clear conceptual advance.

To my knowledge, this is the first study to deploy a dense array of Irwin sensors to directly measure u_{*s} (not just wind speed) around a natural shrub over an extended period (~11 months).

The demonstration that is phenology-dependent but wind-speed-independent is a significant conceptual contribution. It means that in sparsely vegetated landscapes, the spatial pattern of erosion potential is governed more by vegetation structure than by instantaneous above-canopy wind forcing. This should prompt a re-evaluation of assumptions in many wind erosion models. I like this result.

The clear finding that spatial variability in exceeds temporal variability (by ~30-40%) is highly relevant for model parameterization. It underscores the necessity of accounting for fine-scale spatial heterogeneity, not just temporal averages, when predicting sediment transport.

All conclusions are drawn from measurements around a single *Prosopis glandulosa*shrub (~1 m tall). The shape, extent, and magnitude of the acceleration zone, as well as the absolute values of and its spatial variability, are likely influenced by species-specific traits (morphology, porosity, flexibility) and scaling (height-to-width ratio). The crown diameter was nearly twice the height in this study, which may explain differences with prior studies using cylindrical elements.

The figures could be refined; they appear rather rough and unpolished overall.

The analysis is restricted to wind speeds between 4 and 10 m/s at 1 m height. The conclusion that is independent of wind speed is robust within this range. Is it sound?

The experiment is based on only one individual shrub of a single species and only the dominant wind direction (225°±30°). The authors must clearly and explicitly state that their conclusions are site-specific and shrub-specific, and cannot be broadly generalized to other vegetation types, morphologies, densities, or wind directions. Overstatements about “shrubs in drylands”. The study only focuses on one single shrub, not “vegetation” in general, so the title might be something like “Spatiotemporal dynamics of shear stress partitioning around a single shrub in a sparsely vegetated dryland” or “Shear stress partitioning around a single shrub:

spatiotemporal responses to wind magnitude and phenology in a dryland"…

I did not see the quantitative measurements of shrub morphology (canopy width, height, porosity, branch density).

Figures 5 and 6 visually appear to show rather weak trends, and even if so-called "objective results" are derived from non-parametric statistical tests like the Mann-Kendall test, they may not truly explain anything substantial.

The conclusions section largely repeats findings already in the abstract.

Th "first" are slightly overstated, appearing many times in the text.

The 4 m s^{-1} wind threshold and 5-minute averaging interval are acceptable, but the authors should briefly justify why this choice does not bias the estimation of shear velocity.