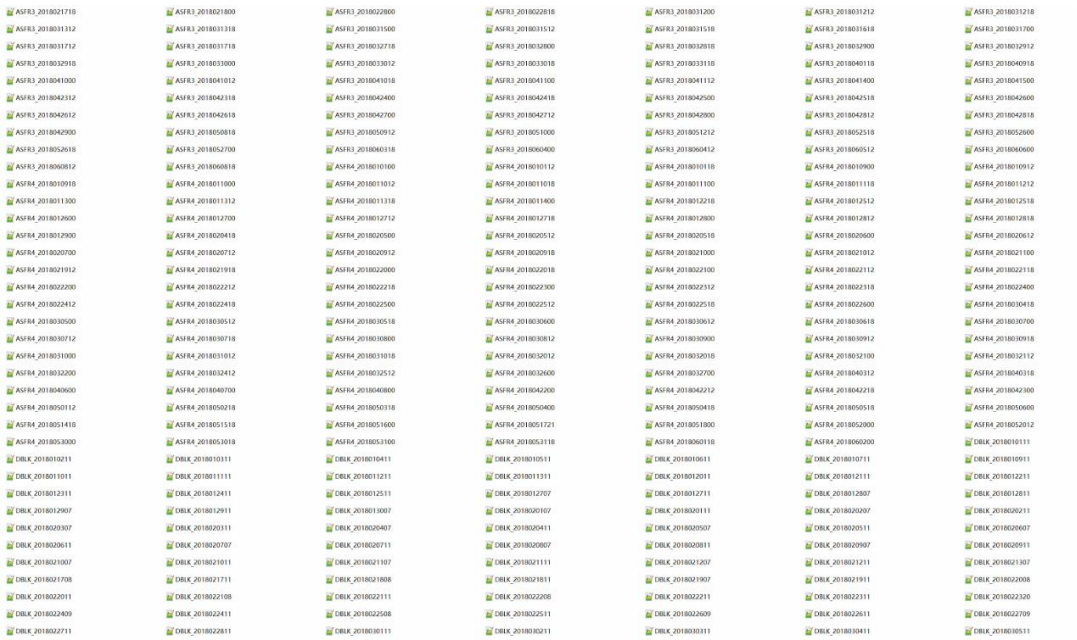
Review of "RAPSODI: Radiosonde Atmospheric Profiles from Ship and Island platforms during ORCESTRA, collected to Decipher the ITCZ" by Winkler et al. (2026).

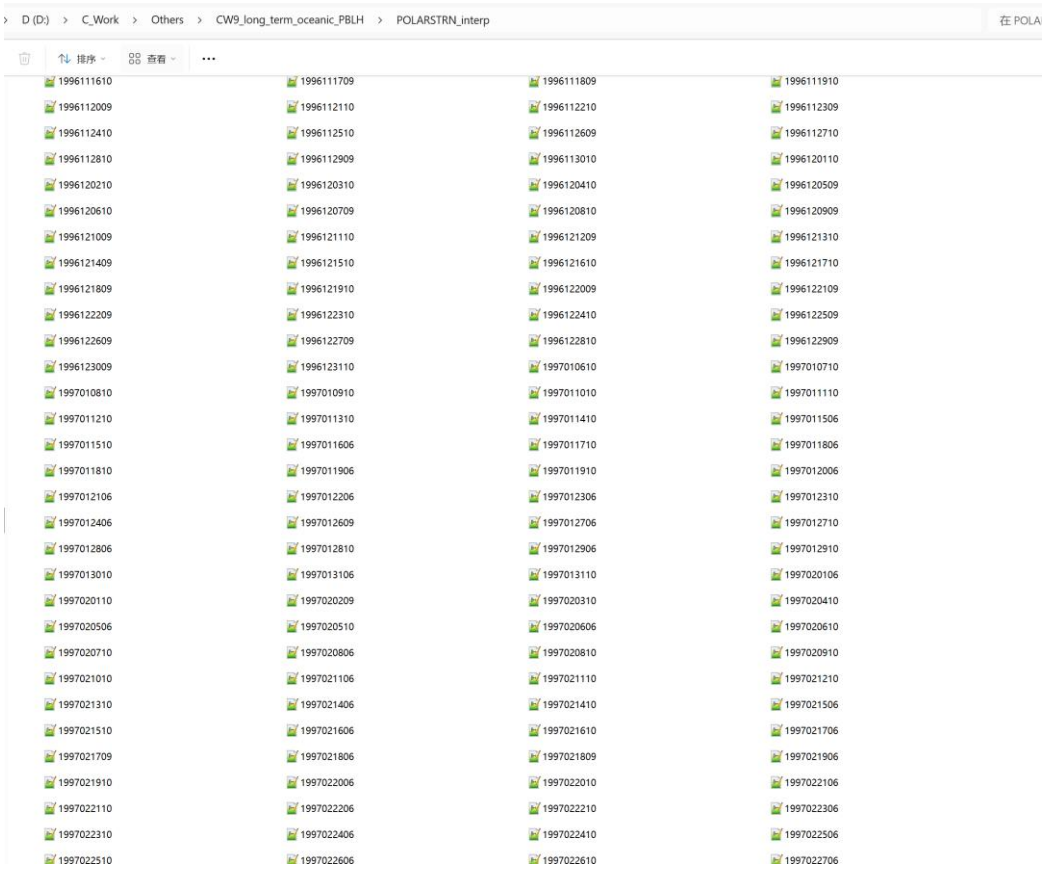
This dataset, conducted by a collaborative team over ocean and island platforms, presents a potentially valuable resource for investigating fine-scale vertical atmospheric structures. The experiment itself appears both well-designed and scientifically engaging. Compared to other ocean-based sounding campaigns, the launch frequency in this study is notably higher in temporal density, which should offer more detailed perspectives for studying the Intertropical Convergence Zone (ITCZ). Overall, the paper is well-organized and provides thorough technical documentation. This research holds great potential, and the dataset itself possesses significant scientific value. I have benefited from the authors' academic rigor and would like to express my appreciation for their thoughtful work. I would recommend major revision to the manuscript prior to publication.

Comments:

1. As a data description paper, I found it quite difficult to access the data link provided in the Abstract. Many readers may not be familiar with the IPFS system. Providing an alternative HTTP address would be more appropriate. Since the author provides corresponding Python code later in the text, it might be better to include a brief explanation in the abstract.

2. To my knowledge, there have been many other Atlantic radiosonde launch campaigns, such as POLARSTERN, DBLK, HTXUH4H, among others. On an old hard drive, I discovered approximately 20,000 high-resolution radiosonde profiles launched over the ocean, most of which were conducted over the Atlantic. As an example, I have provided two screenshots of the data listing below. Although I have not systematically examined the spatial overlap between these data and the study area, it might be worthwhile to briefly introduce other oceanic radiosonde experiments in the introduction and provide a concise comparison. This would allow readers to gain a broader perspective on the full scope of Atlantic radiosonde campaigns.





3. The authors emphasize the ITCZ in their title, yet more detailed analysis of the ITCZ is not found in the main text. If feasible, providing a preliminary finding on the ITCZ could enhance the scientific contribution of this paper.

4. The abstract should include more details about the radiosonde dataset, such as the time range, release intervals, and balloon sampling frequency. Additionally, the R/V Meteor may be difficult to understand for readers unfamiliar with German scientific expeditions; for instance, I initially assumed it referred to a type of meteor radar.

5. The Introduction would benefit from a clearer explanation of the scientific motivation behind ORCESTRA. What were the key research questions or atmospheric processes that this campaign aimed to address?

6. It is recommended that the following content from page 2 be annotated within the main text. This citation format appears inconsistent with standard EGU citation style and caused some confusion. Additionally, page 3 contains similar phrasing such as “MAESTRO (mesoscale organization of tropical convection),” which duplicates the expression on page two.

[1]https://orcestra-campaign.org/orcestra.html
[2]PERCUSION ≡ Persistent EarthCare underflight studies of the ITCZ and organized convection
[3]MAESTRO ≡ Mesoscale organisation of tropical convection
[4]BOWTIE ≡ Beobachtung von Ozean und Wolken – Das Trans ITCZ Experiment
[5]PICCOLO ≡ Process Investigation of Clouds and Convective Organization over the atLantic Ocean
[6]SCORE ≡ Sub-Cloud Observations of Rain Evaporation

7. Figure 1a: Why do some trajectory segments appear discontinuous in the lower-right part of the panel? This is unusual in my experience—could it be due to data loss? For panels (a) and (b), which represent land-based ("stationary") platforms, adding launch coordinates to the figure would be helpful. Additionally, I made every effort to interpret Figure 1, as it is crucial for understanding the entire experiment. Unfortunately, despite over a decade of radiosonde experience, I find Figure 1 difficult to comprehend. The phrase "...both ascending and descending segments shown" is perplexing. Typically, descending balloons, as described in the main text, are called dropsondes, while ascending ones are radiosondes. I'm unclear on what exactly the "descending" values represent. Does "descending" refer to the period after balloon burst? A typical radiosonde profile (sampling rate = 1s) would produce a continuous curve rather than the scattered points shown in (b).

8. Given that Meteomodem and Vaisala radiosondes are well-established and widely documented technologies (e.g., in journals like AMT), the authors might consider reducing the technical details in favor of highlighting the unique scientific opportunities offered by the ORCESTRA campaign. What are the potential research themes enabled by this dataset? Which atmospheric processes could be better examined? Expanding the Summary to include such perspectives would increase the impact and value of the data.