This paper purportedly defines a new method for identifying the turbulent/non-turbulent interface in a (zero pressure gradient) turbulent boundary layer and then examines some conditional statistics across the TNTI as defined by this new method and two existing methods. I have a number of issues with this paper that need to be addressed before it can be published.

1. The TNTI has a very specific definition, there is in fact no arbitrariness in defining it although its definition is sensitive to noise, either due to experimentation or machine precision. It is clearly defined as a surface of zero vorticity magnitude and demarcates rotational (turbulent) fluid from irrotational (non-turbulent fluid). No matter which metric that is adopted to identify the TNTI this definition is inalienable and therefore affects the physics that are associated with the identified TNTI. For example, the behaviour of the entrainment, which is referred to in the paper, will be dependent on the definition of the interface that is studied. It is a known fact that all turbulent flows entrain from a non-turbulent background, yielding the boundary layer growth with streamwise distance. Entrainment requires fluid to be transported firstly towards the TNTI from the freestream, and then once this fluid has crossed the TNTI it must be transported into the boundary layer where it is mixed into the turbulent bulk. This behaviour is perfectly illustrated in figure 3(b) for the TNTI identified using the vorticity threshold – consistent negative wall-normal velocity in the vicinity of the TNTI, with an entrainment velocity of $\approx 0.05u_\tau$ which seems like a reasonable value. Such behaviour is not observed when the TNTI is defined either by the TKE method or the UMZ method. This is hardly surprising; if one considers the definition of a TNTI then it is not an iso-surface of uniform streamwsie velocity (or TKE) and hence these surfaces are not the TNTI. The statement at the end of the paper that this UMZ-method is “a better diagnostic tool for entrainment and mixing” is therefore simply not true.

2. This leads to my second point – a paper was published earlier this year that used an extremely similar UMZ-based method to “identify” the TNTI. For the reasons that I outlined above they were, however, careful not to ascribe the outermost UMZ iso-velcity contour as the turbulent/turbulent interface (TTI) or TNTI (various cases of freestream turbulence were also used). It is therefore not accurate to state (as this paper does) that the authors have introduced this UMZ-based method for TNTI detection. See Asadi, Bullee & Hearst (2025) *J. Fluid Mech.* **1005** A2.

3. The Reynolds stresses in the interfacial region need to be better described as there are two possible definitions for the velocity fluctuations and there will (I suspect) be a big difference in the results depending on which definition is chosen. The fluctuations can either be defined as $[u - \overline{u}(y)]$, i.e. the mean is defined as a function of wall-normal distance, or it can be defined as $[u - \overline{u}(\tilde{y})]$, i.e. the mean as a function of distance from the TNTI. My suspicion is that the former has been used but this can be misleading since if a data point is just below the TNTI location then it will be part of the boundary layer whilst if it is just above the TNTI it will be in the freestream even though both locations would have the same mean velocity when defined as a function of wall-normal distance.

Other comments: Figure 7(b) is missing; the caption to figure 9 is incorrect