Review for "Deep learning based automatic grounding line delineation in DInSAR interferograms"

Summary:

This manuscript used the Holistically-Nested Edge Detection (HED) neural network to delineate DInSAR interferograms automatically. Based on their experiments, they suggested using the rectangular interferometric features to avoid spurious detections. This manuscript demonstrated the ability of HED to delineate interferograms of previously unseen regions without retraining the network, which enables the timely delineation of new interferograms without manual intervention. And compared to the former paper published by Mohajerani et al., (2021), the authors used unentangled phases and pseudo-coherence, which could make a higher accuracy and more automated process. And they're supposed to be flexible enough to use the data from the three satellites, and then adjust the parameters for the resolution characteristics, the pseudo-coherence calculations, and the phase disentanglement, so that NISAR and other commercial satellites could be used as well. Overall, this manuscript is a well-written and innovative study in automatic groundling line delineation. There are several suggestions from my side that need to be addressed before the paper gets published.

Major:

1. The specific implementation details of error type analysis and uncertainty assessment are not mentioned in detail in this article. Error type analysis generally involves identifying and categorizing errors in model predictions because of the need to improve the model training process and the accuracy of the final output. Examples of unmentioned error classification include misidentifying non-baseline regions as baselines (false positives) or failing to identify true baseline regions (false negatives), and spatial errors, which are mislocalizations in the spatial distribution, such as shifts in baseline locations.

2. The uncertainty assessment is mainly concerned with calculating and presenting the confidence ranges of the model outputs, often using things like confidence intervals, or Bayesian statistics to estimate the uncertainty of the predictions. It seems that this manuscript doesn't explicitly use Bayesian networks or other statistical methods to express the uncertainty of the predictions, and it also doesn't go into detail about the types of errors that the model might produce, such as the quality of the input data, the structural limitations of the model and so on.