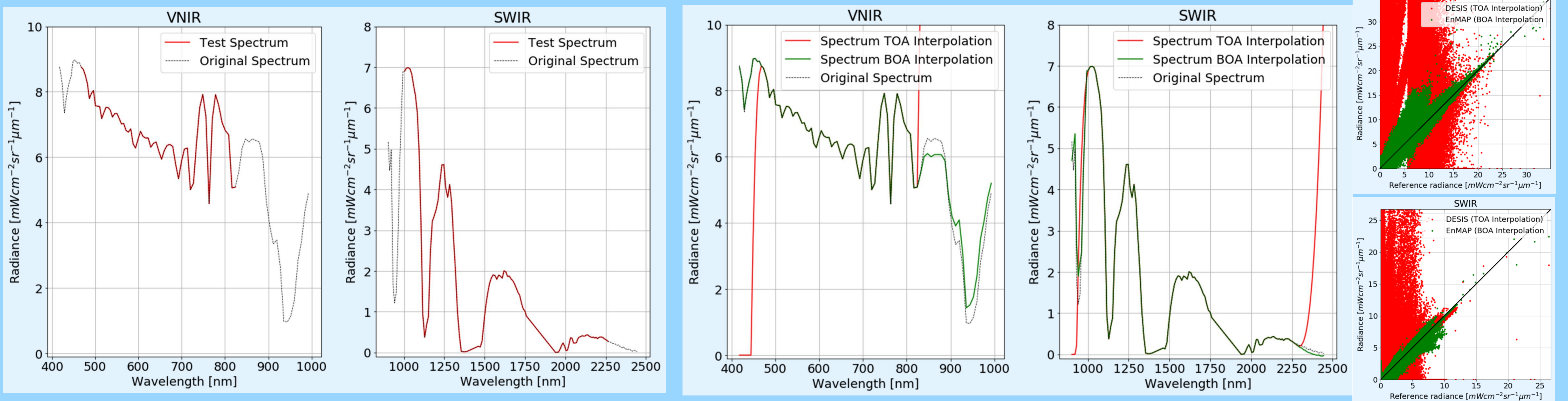




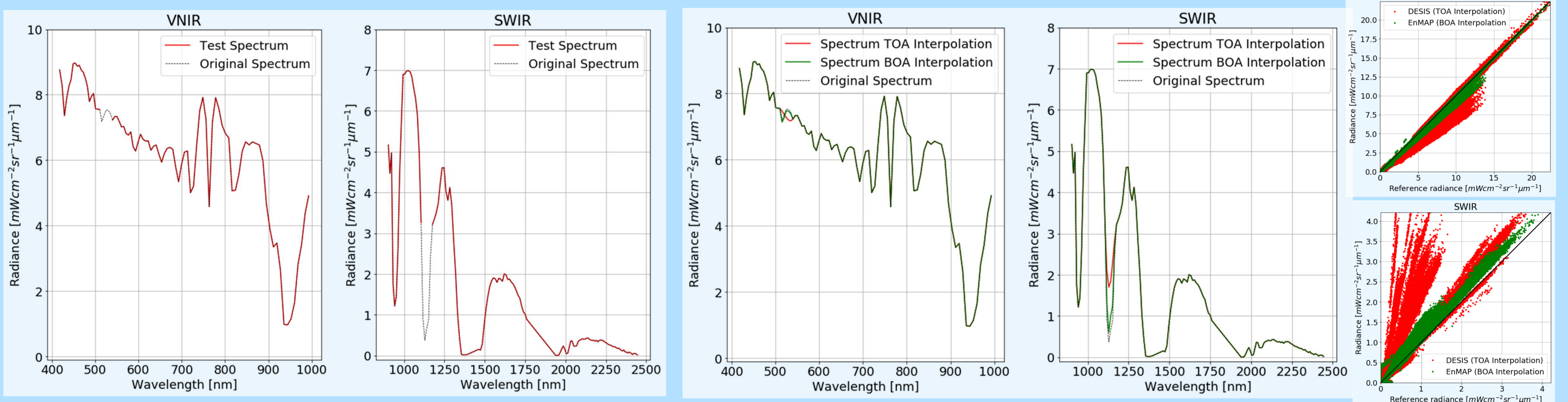
BOA REFLECTANCE BASED DEAD AND DEFECTIVE PIXEL INTERPOLATION IN THE ENMAP GROUND SEGMENT PROCESSING CHAIN

Dead pixel interpolation on bottom-of-atmosphere (BOA) reflectance spectra can handle corrupted/damaged data and scenes under difficult atmospheric conditions. The correlation between interpolated and target values decreases significantly with the degree of data degradation. In these cases, the EnMAP dead pixel interpolation algorithm clearly outperforms the TOA approach, restoring large amounts of missing consecutive radiance values in the spectral dimension more accurately due to the absence of atmospheric effects on BOA reflectance and an applied spatial interpolation in boundary bands to reduce extrapolation errors. For a nominal number and distribution of abnormal pixels in a hyperspectral cube, the BOA approach also provides more accurate and stable restoration results.

Critically damaged hyperspectral datacube



Corrupted hyperspectral datacube



Nominal hyperspectral datacube

