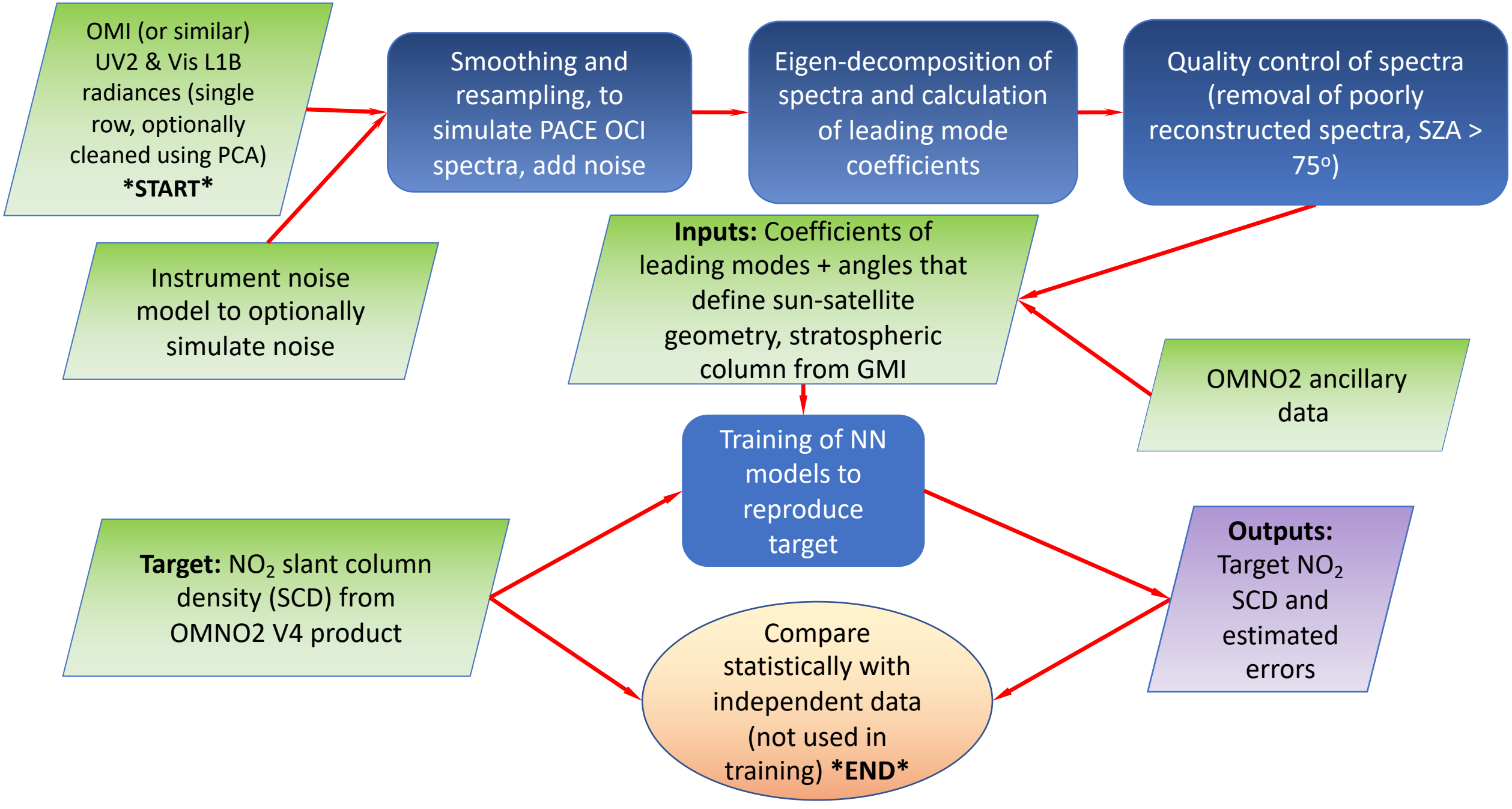
OMI (or similar) UV2 & Vis L1B radiances (single row, optionally cleaned using PCA) *START*
Smoothing and resampling, to simulate PACE OCI spectra, add noise
Eigen-decomposition of spectra and calculation of leading mode coefficients
Quality control of spectra (removal of poorly reconstructed spectra, SZA > 75°)
Instrument noise model to optionally simulate noise
Inputs: Coefficients of leading modes + angles that define sun-satellite geometry, stratospheric column from GMI
OMNO2 ancillary data
Training of NN models to reproduce target
Target: NO2 slant column density (SCD) from OMNO2 V4 product
Outputs: Target NO2 SCD and estimated errors
Compare statistically with independent data (not used in training) *END*