COMPARISON OF GRAS DATA PROCESSING RESULTS OBTAINED AT EUMETSAT AND AT UCAR

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To assess the structural uncertainty of GRAS data products we compared processing results obtained at EUMETSAT and from the independently developed processing string at UCAR/COSMIC. UCAR/COSMIC developed its own translator for the raw GRAS observations based on the pyGRAS software supplied by EUMETSAT, and modified its processing chain for orbits, clocks, excess phase data, and profiling. EUMETSAT provided the raw data and comparison results focused on one month of data from October, 2007. We compare LEO satellite orbits, LEO clocks, and inverted bending angle and refractivity profiles. GRAS data show lower noise retrievals in the stratosphere when undifferenced excess phase data are inverted as compared to inversions using excess phase data that are differenced (single differenced) to remove receiver clock errors. This can be seen in the results from both processing centers and points to the benefit of using an ultra-stable oscillator (USO) in the GPS receiver. The comparison will focus on data obtained in phase locked loop (PLL) processing. For this study UCAR COSMIC was supported by EUMETSAT.