

## 1. Introduction

This work addresses the space-time variability in the west Iberia region (passes 1 and 160) of the sea state bias (SSB), wet troposphere and ionosphere geophysical corrections from the 18Hz CGDR product resulting from the COASTALT project.

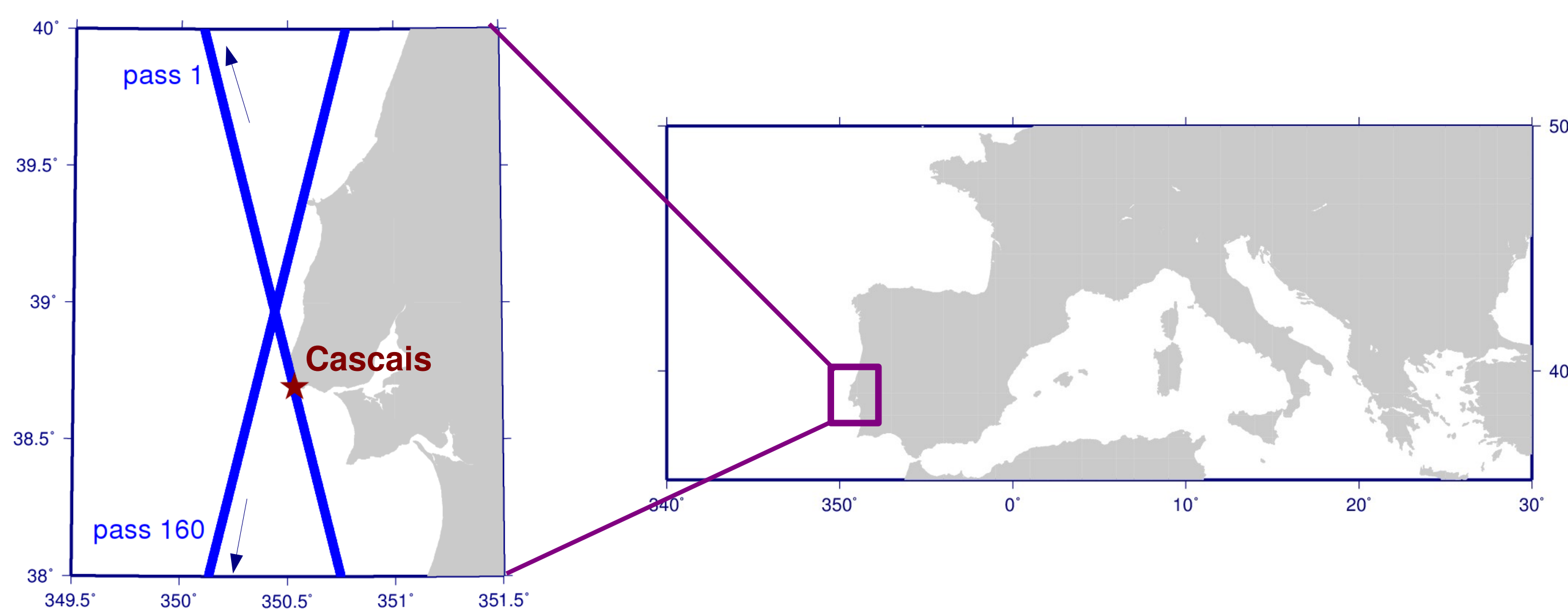


Fig. 1: Study area near the Cascais tide gauge, west Iberia.

## 2. Geophysical corrections

The space-time variability of geophysical corrections is summarised as a function of the distance to the coast by means of an Empirical Orthogonal Function (EOF) analysis of the corresponding along-track values. Fig. 2 shows the 1<sup>st</sup> EOF mode for the wet troposphere correction derived from the DLM method (—), the ECMWF model (—), and GPD (—). Fig.3 and Fig. 4 show the 1<sup>st</sup> EOF mode for the sea state bias (SSB) and ionospheric corrections, respectively.

### 3.1. Wet troposphere

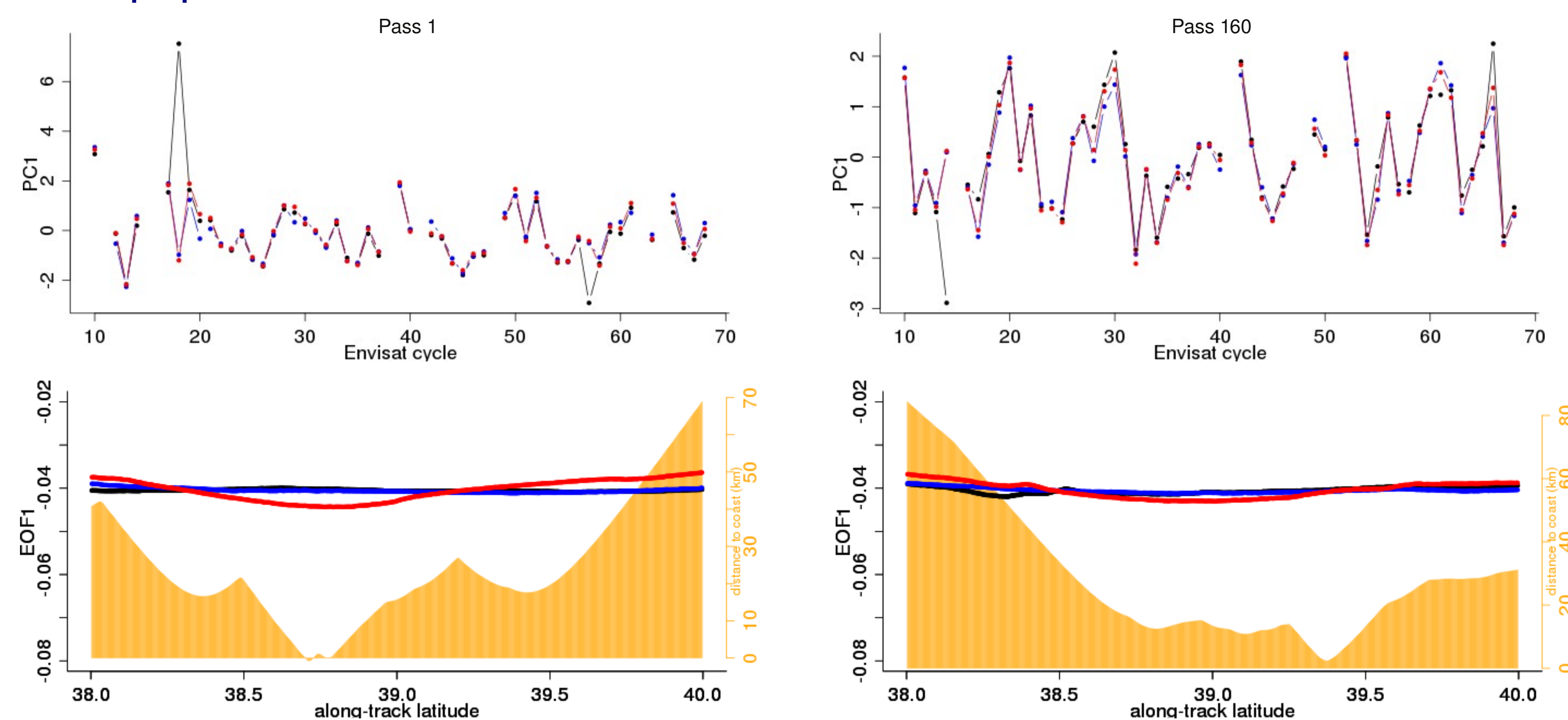


Fig. 2: 1st EOF mode of along-track wet troposphere correction.

### 3.2. Sea state bias (SSB)

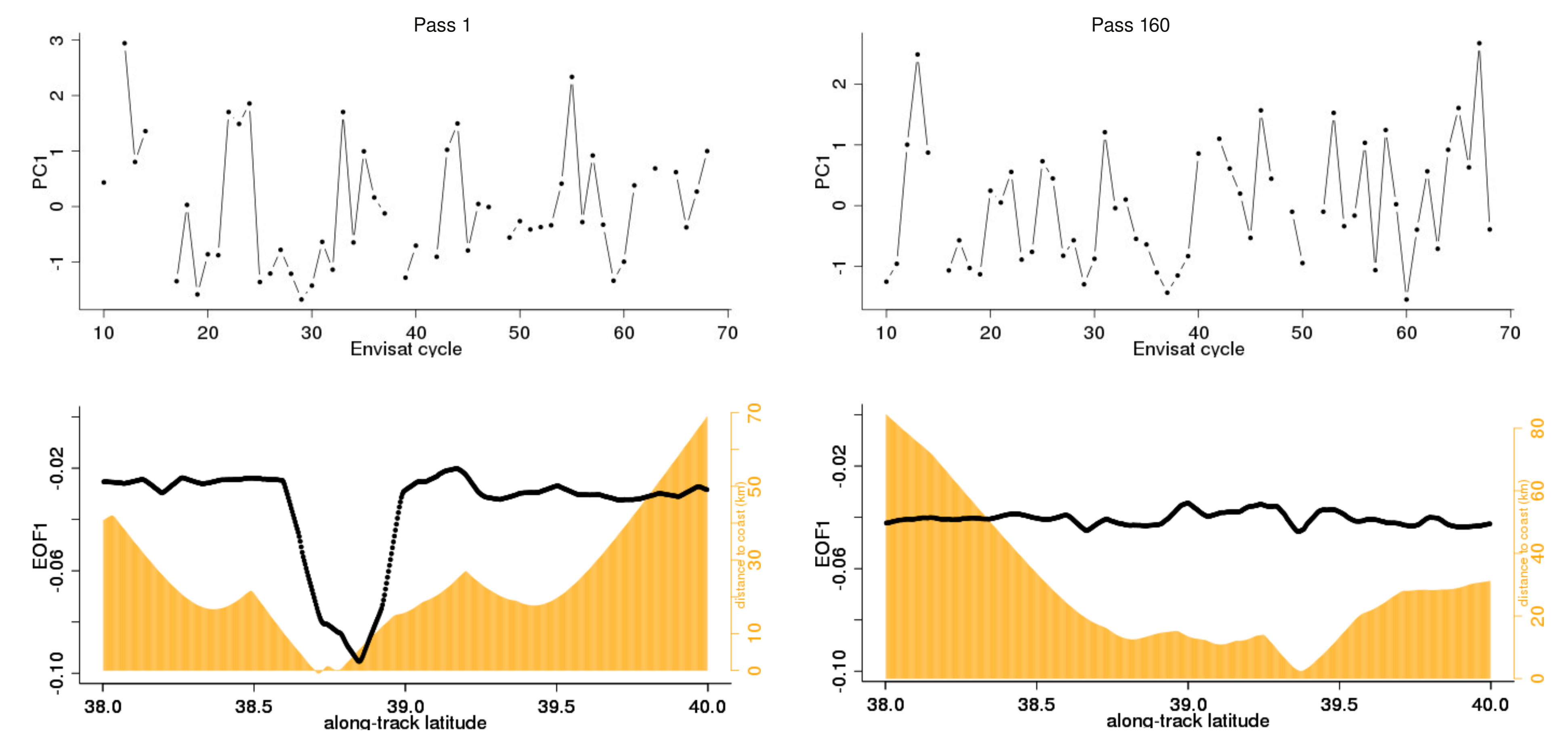


Fig. 3: 1st EOF mode of along-track SSB (non-parametric) correction.

### 3.3. Ionosphere

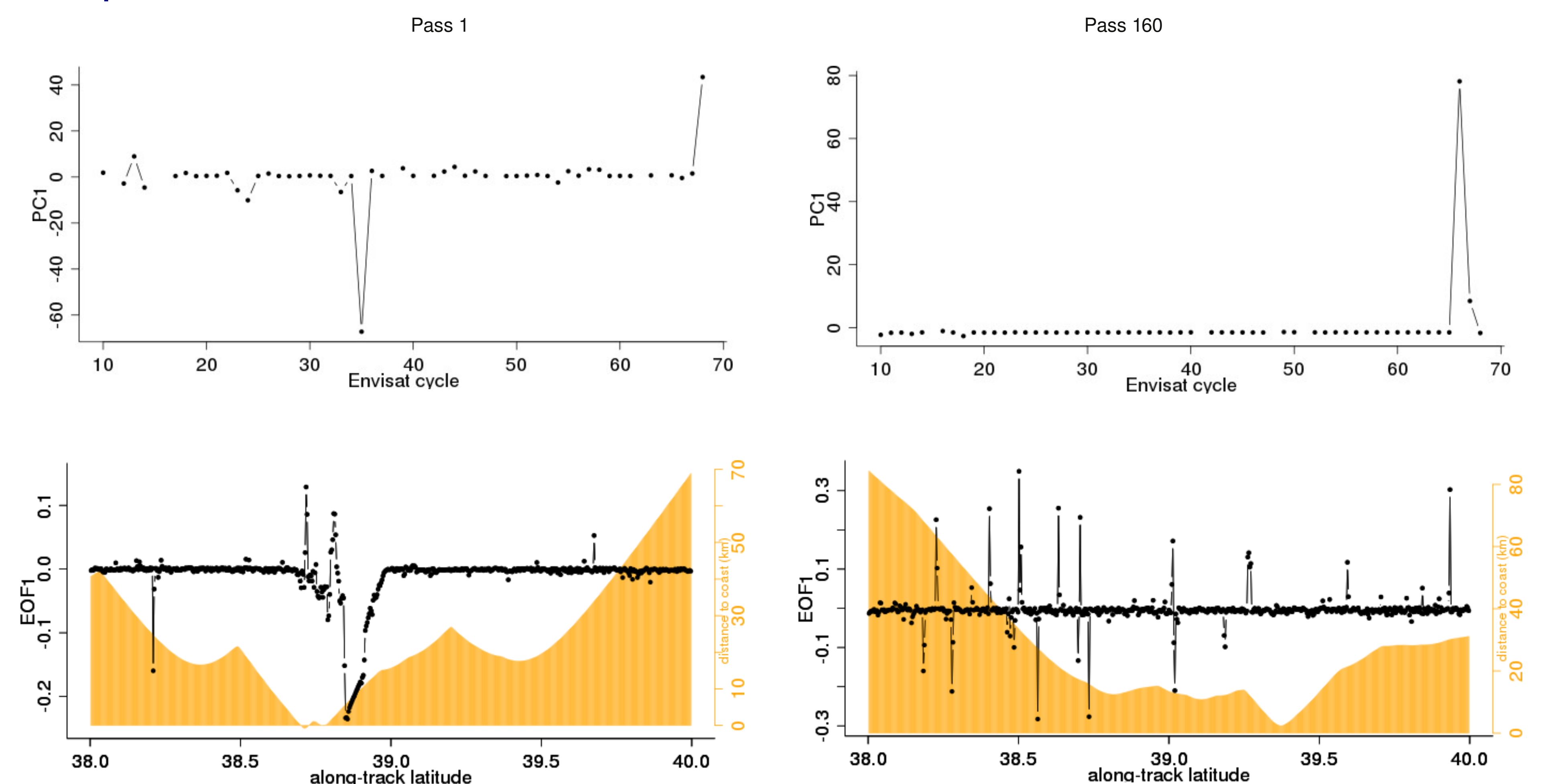


Fig. 4: 1st EOF mode of along-track ionosphere correction (Ku-Brown).