



Initial Results on Ionosphere/Plasmasphere Sounding Based on GPS Data Obtained on Board CHAMP

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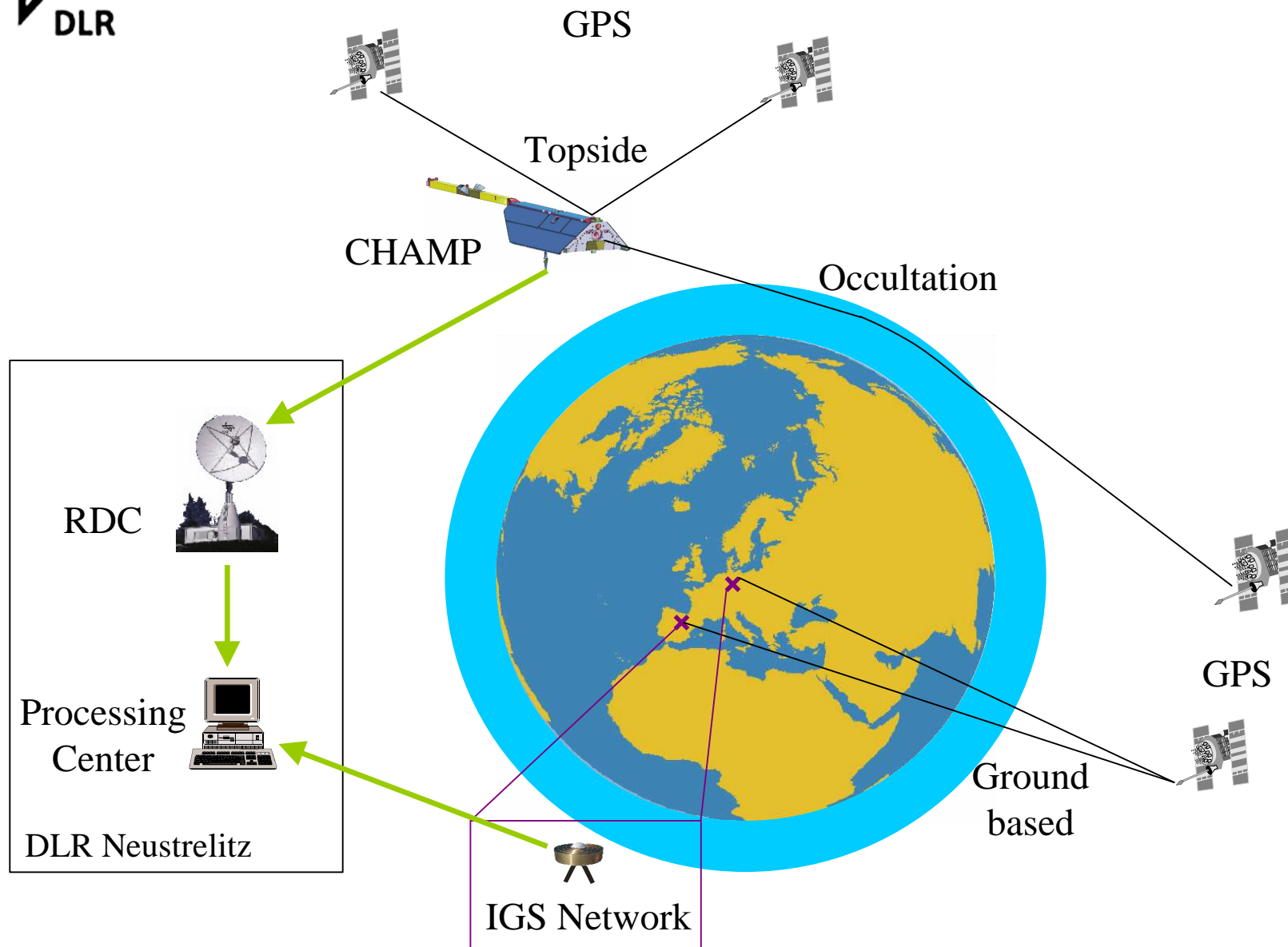
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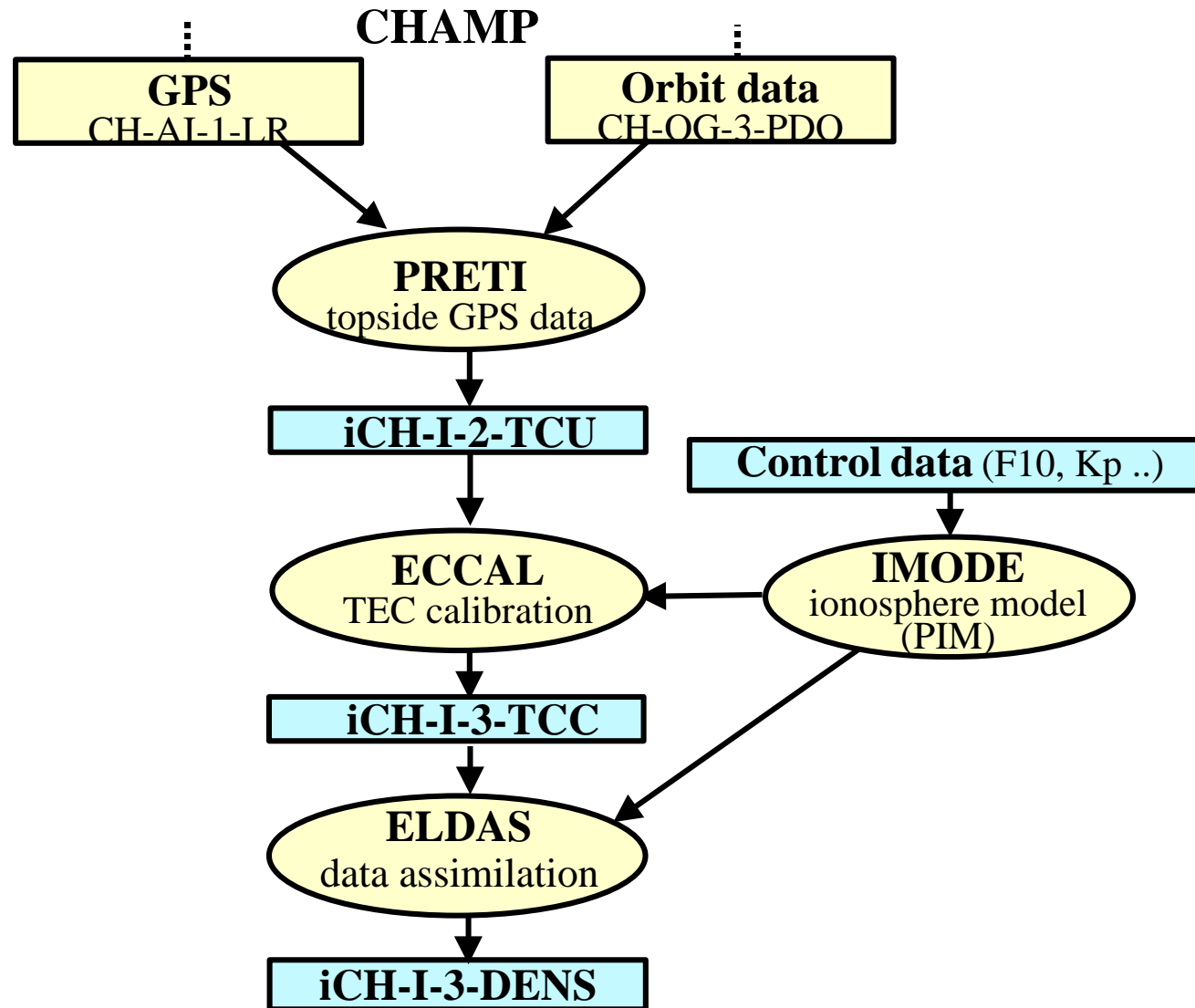
(Stefan.Heise @dlr.de, <http://www.kn.nz.dlr.de>)



Schematic view of GPS ionosphere sounding in DLR/IKN Neustrelitz

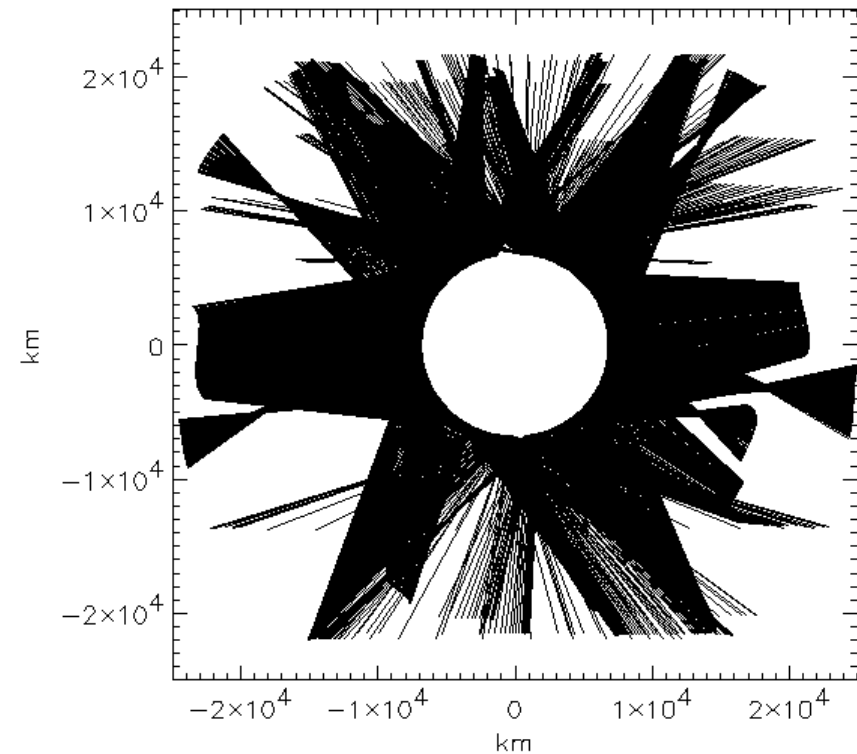
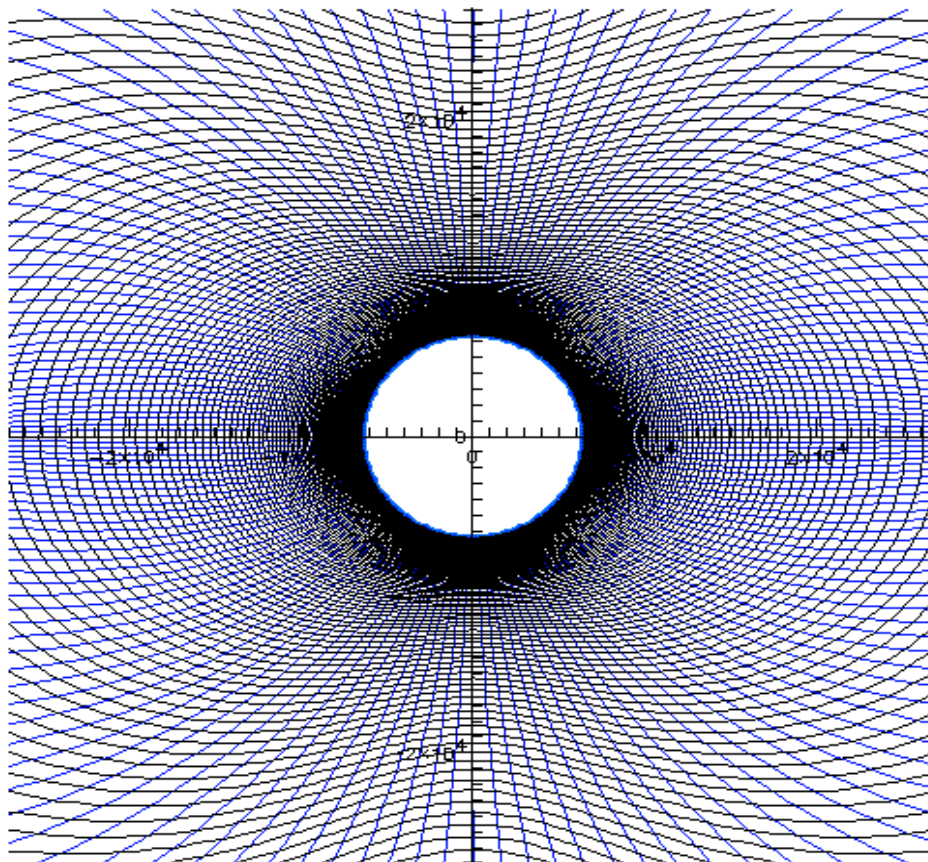


Processing Scheme Topside Ionosphere / Plasmasphere



Topside Ionosphere/Plasmasphere Data Assimilation Voxel Structure

Voxel structure for data assimilation and 2D projection of a typical link distribution obtained after a full CHAMP revolution

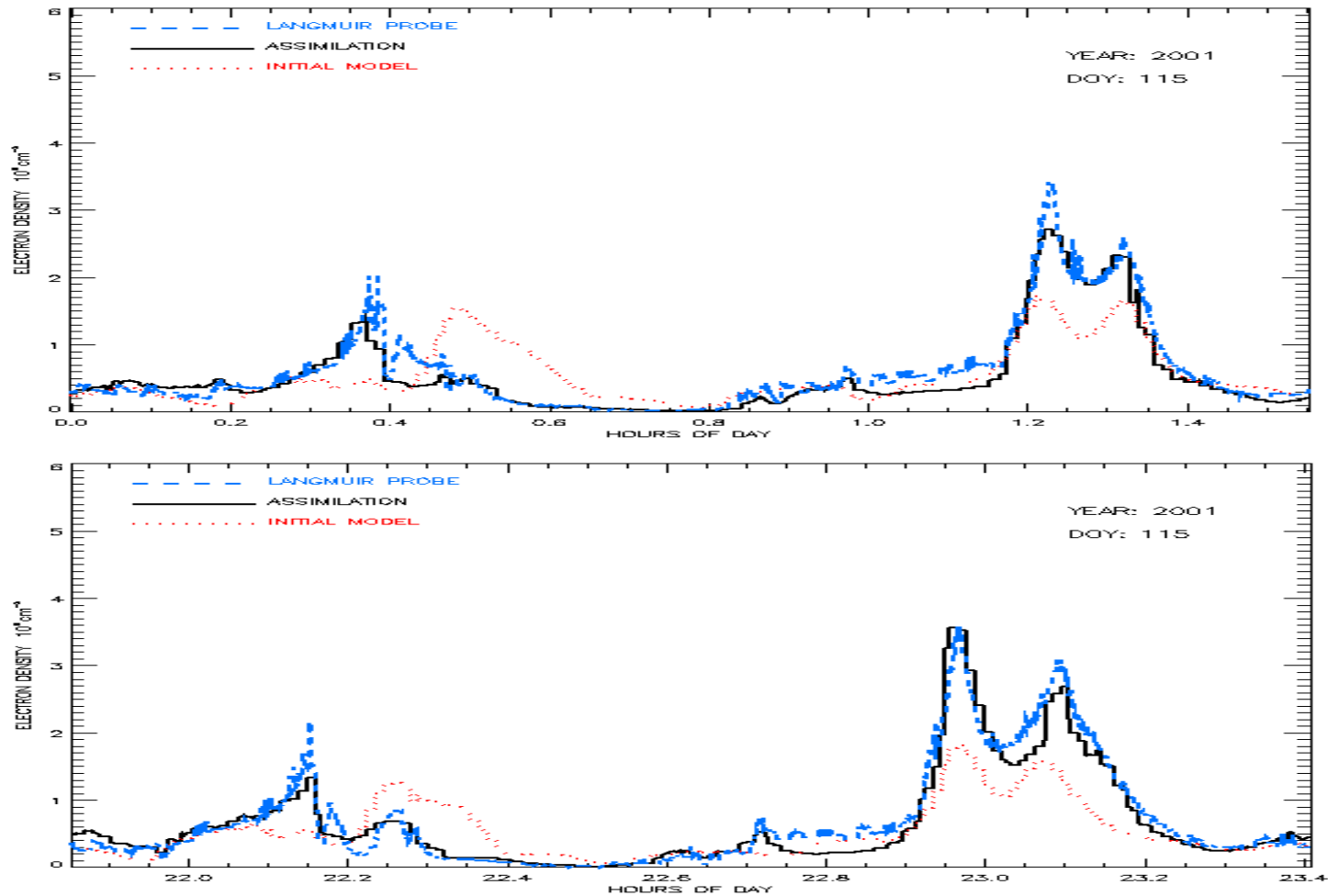


LINK_NR: 3331
YEAR: 2001 DOY: 221 HOUR: 21 MIN: 56 DURATION: 93 min



Validation using Langmuir Probe Measurements

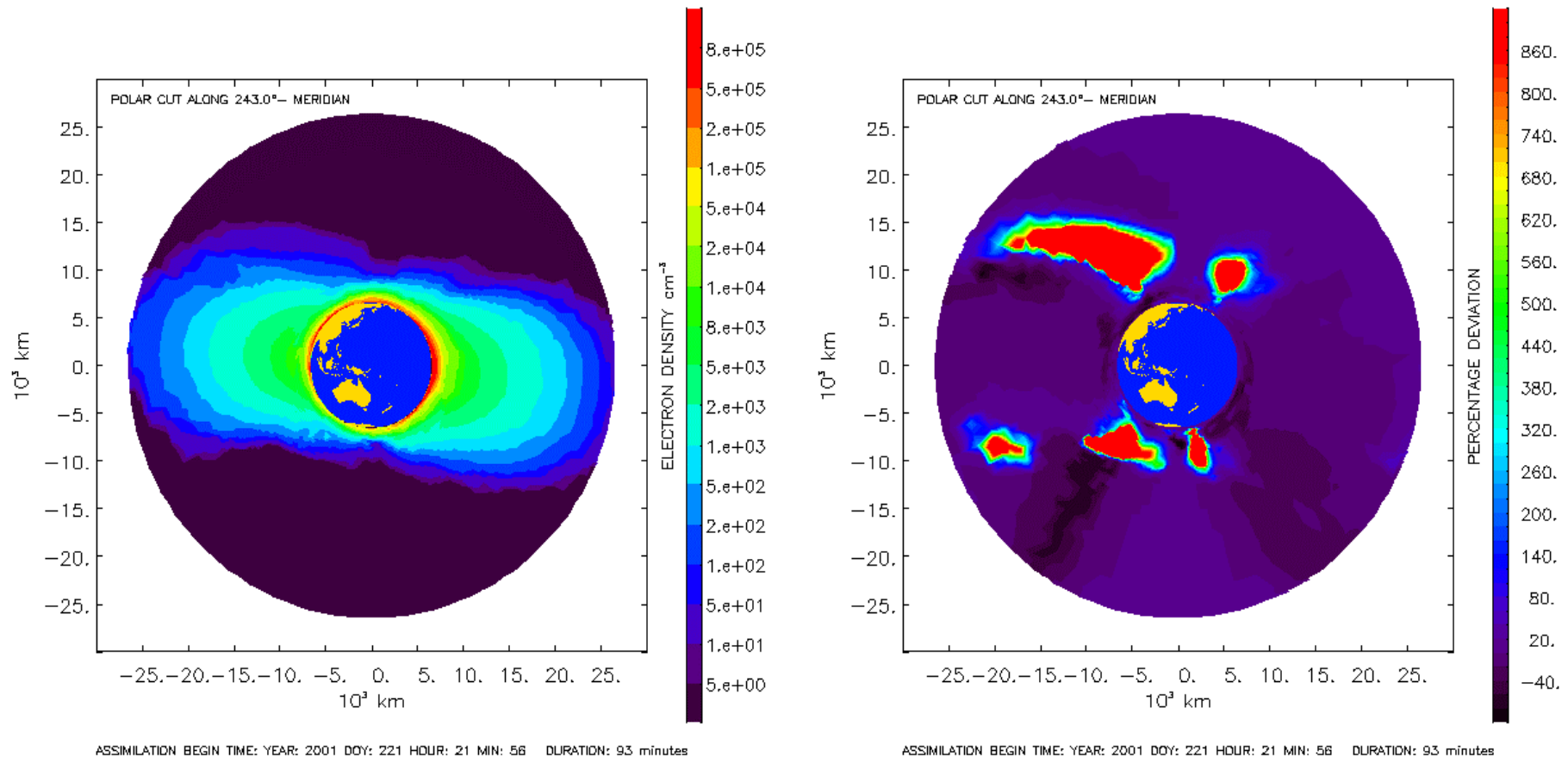
Comparison of assimilation results and Langmuir Probe measurements for selected CHAMP revolutions





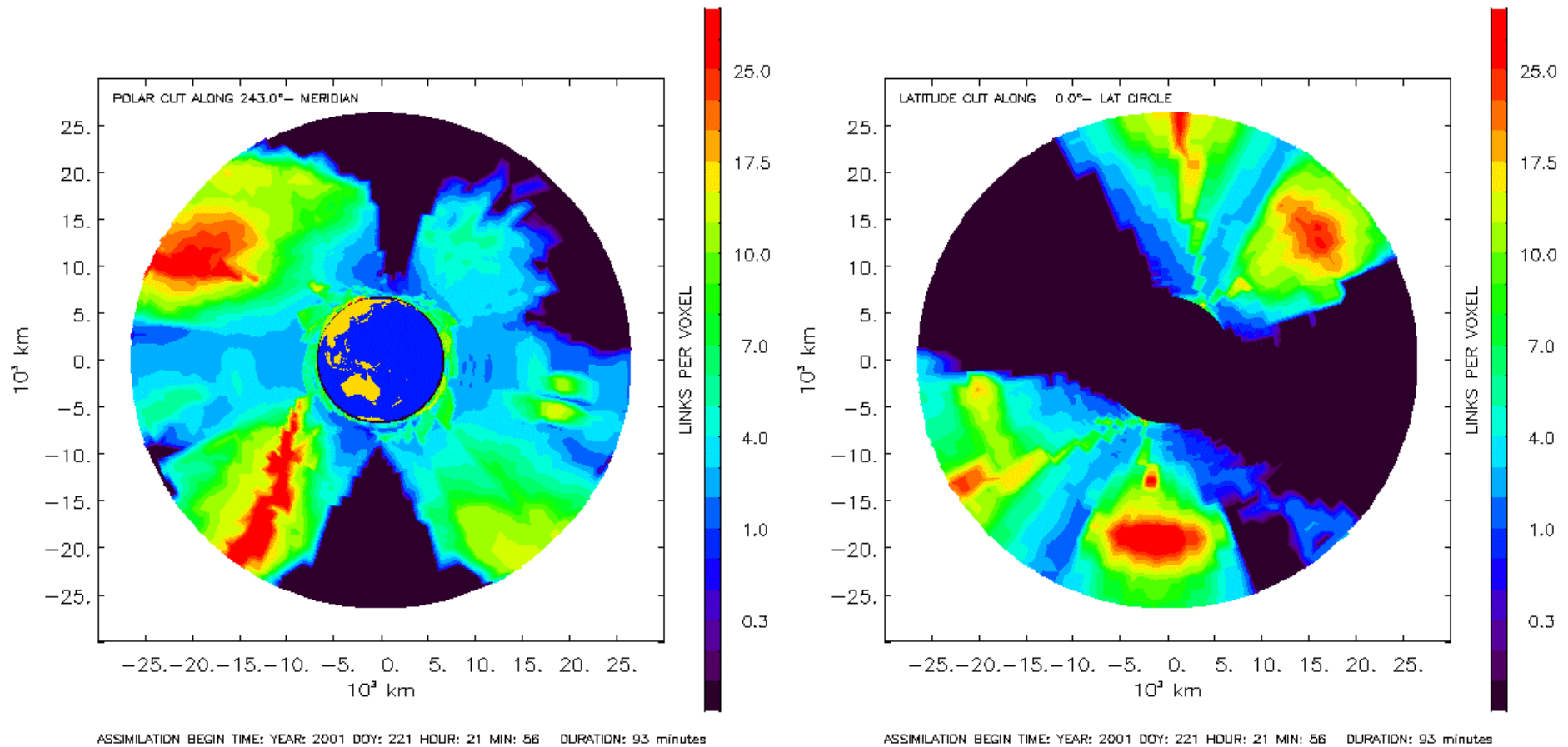
Assimilation Results

Resulting electron density distribution after assimilation of topside GPS measurements obtained during a full CHAMP revolution and relative deviation from initial model (PIM)



Assimilation / Data Coverage

Data coverage (number of link related TEC measurements influencing the assimilation result of a selected voxel) for a selected assimilation example



Validation using Langmuir Probe Measurements

Scatter plots of assimilation results versus Langmuir Probe and initial model (PIM) versus Langmuir Probe for 2001, days 113 - 118

