

## (a) Synthetic Data Generation

Fine-Scale Ionospheric  
Plasma Model  
(Section 3.1)

ISR Spectra Estimates  
Based on Plasma Parameters  
(Section 3.2)

Calculate Interferometry  
Measurements at Each  
Baseline (Section 3.3 & 3.4)

Calculate Realistic Noise  
Values and Add to Interferometry  
Measurements (Section 3.5)

## (b) Interferometric Imaging

Generate the SVD  
Matrices (Section 3.6)

Select the Imaging Inversion  
Algorithm to Use. E.g., Tikhonov  
Regularization (Section 3.6)

Calculate the Interferometric  
Inversion for Each Frequency or  
Lag Bin (Section 3.6)

Fit the Fine-Scale Incoherent  
Scatter Spectra Measurements  
to Derive Plasma Parameters  
(future study)

