



Instrument Concepts for a post EPS Microwave Mission

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The European Space Agency is undertaking two parallel pre-phase A studies to refine instrument concepts for a post EPS (EUMETSAT Polar System) microwave mission, focussed on operational meteorological applications. Starting with the user needs resulting from the post-MSG (Meteosat Second Generation) consultation process, several rough instrument concepts to satisfy as many of these needs as possible have been developed in precursor activities.

Each of the activities leads one detailed instrument concept which be introduced with its advantages and disadvantages and the trade-off leading to the particular concept in the presentation. A critical parameters identified in the designs are the combination of required horizontal resolution, observation time and signal to noise ratio for temperature sounding channels around 54 GHz and 118 GHz respectively. An other driving parameter is required horizontal resolution in particular for cloud imaging that leads to rather large aperture sizes.