Abstract: Imaging magnetospheric satellite missions provide information which is complementary to in-situ observations. Imaging is often able to elucidate large-scale structures which can only be gleaned from in-situ measurements, even multi-point in-situ measurements. But imaging also presents some challenges. By its nature the image is a 2-dimensional projection of a 3-dimensional structure. When three dimensional structures need to be extracted it is necessary to either make suitable assumptions, or to record a large enough number of images from different viewing geometries to allow a three-dimensional reconstruction. Here we consider the extraction of the geometry of the magnetopause and the bow shock from single X-ray images expected from the (SMILE) mission. We examine the three major effects which we believe contribute to errors or uncertainty in this process; the effect of photon-counting, the effect of mis-match between the model and the observations, and the effect of the of the fitting algorithm. We find that the approach of fitting 3-dimensional boundaries to 2-dimensional images works well, including at low count rates.