## Type of Sequence: 3D volume

T1 weighted gradient echo (e.g. MPRAGE) or multiecho flash with two different flip angles

## Requirements

Field of View (FOV) to include nasion and preauricular regions.

1. Slice thickness ≤ 1.5 mm
2. Scan matrix=256, reconstruction matrix=256

(higher resolution can be acquired, but not preferred)

## Recommendations

1. FOV to include entire face
2. Sagittal acquistion to minimize the number of slices needed with the same FOV

(the shortest distance in most heads is between the ears).

1. Isometric 1 mm voxel size
2. If EEG source localization is to be included, the multiecho flash to allow easier identification of the skull for BEM generation

## General Instructions

MSI exploits the combination of MEG with MRI for source localization. Due to the requirement of image registration, a volumetric sequence with a FOV must be used that includes the entire scalp; landmarks such as the nose and ears must be clearly visualized. Ideally voxels are isometric and close to 1mm3 such that arbitrary reslicing of the volume is possible. Two-dimensional sequences can also be used if registration of MEG coordinates is to the native MRI acquisition space. For “real head” forward modeling high contrast between skull, CSF, and grey / white matter is mandated for accurate segmentation.