## 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.