

SIEMENS MAGNETOM Sonata syngo MR 2004A

\\USER\ZAHID RESEARCH001\HAACKE_MS_092809\Haacke_ms_8ch_01192010\localizer

Scan Time: 0:17 Voxel size: 2.5x1.3x7.0 [mm] Rel. SNR: 1.00 SIEMENS: gre

Routine

| | |
|--------------------|-------------------|
| Slice group 1 | |
| Slices | 1 |
| Dist. factor | 20 [%] |
| Position | Isocenter |
| Orientation | Sagittal |
| Phase enc. dir. | A >> P |
| Rotation | 0 [deg] |
| Slice group 2 | |
| Slices | 1 |
| Dist. factor | 20 [%] |
| Position | Isocenter |
| Orientation | Transversal |
| Phase enc. dir. | A >> P |
| Rotation | 0 [deg] |
| Slice group 3 | |
| Slices | 1 |
| Dist. factor | 20 [%] |
| Position | Isocenter |
| Orientation | Coronal |
| Phase enc. dir. | R >> L |
| Rotation | 0 [deg] |
| Phase oversampling | 0 [%] |
| FoV read | 320 [mm] |
| FoV phase | 100.0 [%] |
| Slice thickness | 7 [mm] |
| TR | 20 [ms] |
| TE | 5 [ms] |
| Averages | 2 |
| Concatenations | 3 |
| Filter | Elliptical filter |
| Coil elements | PH1,PH2,PH3,... |

Contrast

| | |
|-------------------|-----------|
| TD | 0 [ms] |
| MTC | 0 |
| Magn. preparation | None |
| Flip angle | 40 [deg] |
| Reconstruction | Magnitude |
| Fat suppr. | None |
| Water suppr. | None |
| Measurements | 1 |

Resolution

| | |
|-----------------------|--------|
| Base resolution | 256 |
| Phase resolution | 50 [%] |
| Phase partial Fourier | Off |
| Filter 1 | |
| Raw filter | Off |
| Filter 2 | |
| Large FoV | Off |
| Filter 3 | |
| Normalize | Off |
| Filter 4 | |
| Elliptical filter | On |
| Interpolation | 1 |
| ----- | |
| PAT mode | None |

Geometry

| | |
|------------------|-------------|
| Multi-slice mode | Sequential |
| Series | Interleaved |
| ----- | |
| Saturation mode | Standard |
| Special sat. | None |
| ----- | |

System

| | |
|--------------------------|-------------|
| Save uncombined | 0 |
| Scan at current TP | 1 |
| MSMA | S - C - T |
| Sagittal | R >> L |
| Coronal | A >> P |
| Transversal | F >> H |
| 8 Channel Head / PH5 | 1 |
| 8 Channel Head / PH6 | 1 |
| 8 Channel Head / PH7 | 1 |
| 8 Channel Head / PH8 | 1 |
| CP Spine Array / SP3 | 0 |
| CP Spine Array / SP4 | 0 |
| CP Spine Array / SP5 | 0 |
| CP Spine Array / SP6 | 0 |
| CP Spine Array / SP1 | 0 |
| CP Spine Array / SP2 | 0 |
| 8 Channel Head / PH1 | 1 |
| 8 Channel Head / PH2 | 1 |
| 8 Channel Head / PH3 | 1 |
| 8 Channel Head / PH4 | 1 |
| Body | 0 |
| ----- | |
| Shim mode | Tune up |
| Adjust with body coil | 0 |
| Confirm freq. adjustment | 0 |
| Assume Silicone | 0 |
| Ref. amplitude [1H] | 180.000 [V] |
| Adjust volume | |
| Position | Isocenter |
| Orientation | Transversal |
| Rotation | 0 [deg] |
| R >> L | 350 [mm] |
| A >> P | 263 [mm] |
| F >> H | 350 [mm] |

Physio

| | |
|-----------------|------|
| 1st Signal/Mode | None |
| Segments | 1 |
| ----- | |
| Tagging | None |
| Dark blood | 0 |
| ----- | |
| Resp. control | Off |

Inline

| | |
|----------------------|---|
| Subtract | 0 |
| Std-Dev-Sag | 0 |
| Std-Dev-Cor | 0 |
| Std-Dev-Tra | 0 |
| Std-Dev-Time | 0 |
| MIP-Sag | 0 |
| MIP-Cor | 0 |
| MIP-Tra | 0 |
| MIP-Time | 0 |
| Save original images | 1 |
| ----- | |
| Wash - In | 0 |
| Wash - Out | 0 |
| TTP | 0 |
| PEI | 0 |
| MIP - time | 0 |

Sequence

| | |
|---------------------|----|
| Introduction | 1 |
| Dimension | 2D |
| Phase stabilisation | 0 |

SIEMENS MAGNETOM Sonata syngo MR 2004A

| | |
|-----------------|-------------|
| Averaging mode | Short term |
| Asymmetric echo | Off |
| Contrasts | 1 |
| Bandwidth | 180 [Hz/Px] |
| Flow comp. | No |

| | |
|---------------|------------|
| RF pulse type | Fast |
| Gradient mode | Normal |
| Excitation | Slice-sel. |
| RF spoiling | 1 |

SIEMENS MAGNETOM Sonata syngo MR 2004A

\\USER\ZAHID RESEARCH001\HAACKE_MS_092809\Haacke_ms_8ch_01192010\SWI_1X.5X2_HEAD_NECK

+ Scan Time: 11:33 Voxel size: 1.0x0.5x2.0 [mm] Rel. SNR: 1.00 USER: swiIPAT

Routine

| | |
|--------------------|-----------------------|
| Slab group 1 | |
| Slabs | 1 |
| Dist. factor | 20 [%] |
| Position | L0.0 A37.0 F30.1 [mm] |
| Orientation | T > C-5.7 |
| Phase enc. dir. | R >> L |
| Rotation | 90 [deg] |
| Phase oversampling | 0 [%] |
| Slice oversampling | 0 [%] |
| Slices per slab | 128 |
| FoV read | 256 [mm] |
| FoV phase | 75.0 [%] |
| Slice thickness | 2 [mm] |
| TR | 50 [ms] |
| TE | 40 [ms] |
| Averages | 1 |
| Concatenations | 1 |
| Filter | None |
| Coil elements | PH1,PH2,PH3,... |

Contrast

| | |
|-------------------|-------------|
| MTC | 0 |
| Magn. preparation | None |
| Flip angle | 15 [deg] |
| Reconstruction | Magn./Phase |
| Fat suppr. | None |
| Water suppr. | None |
| Measurements | 1 |

Resolution

| | |
|-----------------------|---------|
| Base resolution | 512 |
| Phase resolution | 50 [%] |
| Slice resolution | 100 [%] |
| Phase partial Fourier | Off |
| Slice partial Fourier | Off |
| Filter 1 | |
| Raw filter | Off |
| Filter 2 | |
| Large FoV | Off |
| Filter 3 | |
| Normalize | Off |
| Filter 4 | |
| Elliptical filter | Off |
| Interpolation | 0 |
| ----- | |
| PAT mode | GRAPPA |
| Accel. factor PE | 2 |
| Ref. lines PE | 24 |

Geometry

| | |
|------------------|-------------|
| Multi-slice mode | Interleaved |
| Series | Interleaved |
| ----- | |
| Saturation mode | Standard |
| Special sat. | None |

System

| | |
|----------------------|-----------|
| Save uncombined | 0 |
| Scan at current TP | 0 |
| Scan region position | H |
| Scan region position | 0 [mm] |
| MSMA | S - C - T |
| Sagittal | R >> L |
| Coronal | A >> P |
| Transversal | F >> H |

| | |
|----------------------|---|
| 8 Channel Head / PH5 | 1 |
| 8 Channel Head / PH6 | 1 |
| 8 Channel Head / PH7 | 1 |
| 8 Channel Head / PH8 | 1 |
| CP Spine Array / SP3 | 0 |
| CP Spine Array / SP4 | 0 |
| CP Spine Array / SP5 | 0 |
| CP Spine Array / SP6 | 0 |
| CP Spine Array / SP1 | 0 |
| CP Spine Array / SP2 | 0 |
| 8 Channel Head / PH1 | 1 |
| 8 Channel Head / PH2 | 1 |
| 8 Channel Head / PH3 | 1 |
| 8 Channel Head / PH4 | 1 |
| Body | 0 |

| | |
|--------------------------|-----------------------|
| ----- | |
| Shim mode | Standard |
| Adjust with body coil | 0 |
| Confirm freq. adjustment | 0 |
| Assume Silicone | 0 |
| Ref. amplitude [1H] | 180.000 [V] |
| Adjust volume | |
| Position | L0.0 A37.0 F30.1 [mm] |
| Orientation | T > C-5.7 |
| Rotation | 90 [deg] |
| A >> P | 256 [mm] |
| R >> L | 192 [mm] |
| F >> H | 256 [mm] |

Physio

| | |
|-----------------|------|
| 1st Signal/Mode | None |
| Segments | 1 |

| | |
|------------|------|
| Tagging | None |
| Dark blood | 0 |

| | |
|---------------|-----|
| Resp. control | Off |
|---------------|-----|

Inline

Sequence

| | |
|---------------------|------------|
| Introduction | 1 |
| Dimension | 3D |
| Elliptical scanning | 0 |
| Phase stabilisation | 0 |
| Averaging mode | Short term |
| Asymmetric echo | Off |
| Contrasts | 1 |
| Bandwidth | 80 [Hz/Px] |
| Flow comp. | Yes |

| | |
|---------------|-----------|
| ----- | |
| RF pulse type | Normal |
| Gradient mode | Fast |
| Excitation | Slab-sel. |
| RF spoiling | 1 |

| | |
|-------------|---------|
| ----- | |
| RO polarity | bipolar |
| SWI | Off |

SIEMENS MAGNETOM Sonata syngo MR 2004A

\\USER\ZAHID RESEARCH001\HAACKE_MS_092809\Haacke_ms_8ch_01192010\tof_fl2d_tra

+ Scan Time: 5:11 Voxel size: 1.0x0.5x2.5 [mm] Rel. SNR: 1.00 SIEMENS: fl_tof

Routine

| | |
|--------------------|-----------------------|
| Slice group 1 | |
| Slices | 128 |
| Dist. factor | -33.00 [%] |
| Position | L0.0 A37.0 F30.1 [mm] |
| Orientation | T > C-5.7 |
| Phase enc. dir. | R >> L |
| Rotation | 90 [deg] |
| Phase oversampling | 0 [%] |
| FoV read | 256 [mm] |
| FoV phase | 75.0 [%] |
| Slice thickness | 2.5 [mm] |
| TR | 26 [ms] |
| TE | 7.2 [ms] |
| Averages | 1 |
| Concatenations | 128 |
| Filter | None |
| Coil elements | PH1,PH2,PH3,... |

Contrast

| | |
|----------------|-----------|
| TD | 0 [ms] |
| MTC | 0 |
| Flip angle | 70 [deg] |
| Reconstruction | Magnitude |
| Fat suppr. | None |
| Water suppr. | None |
| Measurements | 1 |

Resolution

| | |
|-----------------------|--------|
| Base resolution | 512 |
| Phase resolution | 50 [%] |
| Phase partial Fourier | 6/8 |
| Filter 1 | |
| Raw filter | Off |
| Filter 2 | |
| Large FoV | Off |
| Filter 3 | |
| Normalize | Off |
| Filter 4 | |
| Elliptical filter | Off |
| Interpolation | 0 |
| ----- | |
| PAT mode | GRAPPA |
| Accel. factor PE | 2 |
| Ref. lines PE | 24 |

Geometry

| | |
|------------------|------------|
| Multi-slice mode | Sequential |
| Series | Ascending |
| ----- | |
| Special sat. | Tracking F |
| Gap | 10 [mm] |
| Thickness | 40 [mm] |

System

| | |
|----------------------|-----------|
| Save uncombined | 0 |
| Scan at current TP | 0 |
| Scan region position | H |
| Scan region position | 0 [mm] |
| MSMA | S - C - T |
| Sagittal | R >> L |
| Coronal | A >> P |
| Transversal | F >> H |
| 8 Channel Head / PH5 | 1 |
| 8 Channel Head / PH6 | 1 |
| 8 Channel Head / PH7 | 1 |
| 8 Channel Head / PH8 | 1 |

| | |
|----------------------|---|
| CP Spine Array / SP3 | 0 |
| CP Spine Array / SP4 | 0 |
| CP Spine Array / SP5 | 0 |
| CP Spine Array / SP6 | 0 |
| CP Spine Array / SP1 | 0 |
| CP Spine Array / SP2 | 0 |
| 8 Channel Head / PH1 | 1 |
| 8 Channel Head / PH2 | 1 |
| 8 Channel Head / PH3 | 1 |
| 8 Channel Head / PH4 | 1 |
| Body | 0 |

| | |
|--------------------------|-------------|
| ----- | |
| Shim mode | Tune up |
| Adjust with body coil | 0 |
| Confirm freq. adjustment | 0 |
| Assume Silicone | 0 |
| Ref. amplitude [1H] | 180.000 [V] |
| Adjust volume | |
| Position | Isocenter |
| Orientation | Transversal |
| Rotation | 0 [deg] |
| R >> L | 350 [mm] |
| A >> P | 263 [mm] |
| F >> H | 350 [mm] |

Physio

| | |
|-----------------|------|
| 1st Signal/Mode | None |
| ----- | |
| Dark blood | 0 |

Angio

| | |
|----------------------|---|
| ----- | |
| Subtract | 0 |
| Std-Dev-Sag | 0 |
| Std-Dev-Cor | 0 |
| Std-Dev-Tra | 0 |
| Std-Dev-Time | 0 |
| MIP-Sag | 1 |
| MIP-Cor | 1 |
| MIP-Tra | 0 |
| MIP-Time | 0 |
| Save original images | 1 |

Sequence

| | |
|-----------------|------------|
| Introduction | 1 |
| Dimension | 2D |
| Averaging mode | Short term |
| Asymmetric echo | Allowed |
| Contrasts | 1 |
| Bandwidth | 81 [Hz/Px] |
| Flow comp. | Yes |
| ----- | |
| Gradient mode | Fast |
| RF spoiling | 1 |

SIEMENS MAGNETOM Sonata syngo MR 2004A

\\USER\ZAHID RESEARCH001\HAACKE_MS_092809\Haacke_ms_8ch_01192010\flash_50_through-plane

Scan Time: 1:23 Voxel size: 0.6x0.6x4.0 [mm] Rel. SNR: 1.00 SIEMENS: fl_fq_shphs

Routine

| | |
|--------------------|-----------------------|
| Slice group 1 | |
| Slices | 1 |
| Dist. factor | 20 [%] |
| Position | L0.0 P14.6 F31.1 [mm] |
| Orientation | T > C37.0 |
| Phase enc. dir. | A >> P |
| Rotation | 0 [deg] |
| Phase oversampling | 0 [%] |
| FoV read | 256 [mm] |
| FoV phase | 75.0 [%] |
| Slice thickness | 4 [mm] |
| TR | 32 [ms] |
| TE | 4.2 [ms] |
| Averages | 1 |
| Concatenations | 1 |
| Filter | None |
| Coil elements | PH1,PH2,PH3,... |

Contrast

| | |
|----------------|-----------|
| Flip angle | 30 [deg] |
| Reconstruction | Magnitude |
| Measurements | 1 |

Resolution

| | |
|-------------------|---------|
| Base resolution | 448 |
| Phase resolution | 100 [%] |
| Filter 1 | |
| Raw filter | Off |
| Filter 2 | |
| Large FoV | Off |
| Filter 3 | |
| Normalize | Off |
| Filter 4 | |
| Elliptical filter | Off |

Geometry

| | |
|------------------|------------|
| Multi-slice mode | Sequential |
| Series | Ascending |
| Special sat. | None |

System

| | |
|----------------------|-----------|
| Scan at current TP | 0 |
| Scan region position | H |
| Scan region position | 0 [mm] |
| MSMA | S - C - T |
| Sagittal | R >> L |
| Coronal | A >> P |
| Transversal | F >> H |
| 8 Channel Head / PH5 | 1 |
| 8 Channel Head / PH6 | 1 |
| 8 Channel Head / PH7 | 1 |
| 8 Channel Head / PH8 | 1 |
| CP Spine Array / SP3 | 0 |
| CP Spine Array / SP4 | 0 |
| CP Spine Array / SP5 | 0 |
| CP Spine Array / SP6 | 0 |
| CP Spine Array / SP1 | 0 |
| CP Spine Array / SP2 | 0 |
| 8 Channel Head / PH1 | 1 |
| 8 Channel Head / PH2 | 1 |
| 8 Channel Head / PH3 | 1 |
| 8 Channel Head / PH4 | 1 |
| Body | 0 |
| Shim mode | Tune up |

| | |
|--------------------------|-------------|
| Adjust with body coil | 1 |
| Confirm freq. adjustment | 0 |
| Assume Silicone | 0 |
| Ref. amplitude [1H] | 180.000 [V] |
| Adjust volume | |
| Position | Isocenter |
| Orientation | Transversal |
| Rotation | 0 [deg] |
| R >> L | 350 [mm] |
| A >> P | 263 [mm] |
| F >> H | 350 [mm] |

Physio

| | |
|--------------------|----------------|
| 1st Signal/Mode | Pulse/Trigger |
| Average cycle | No Signal [ms] |
| Acquisition window | 700 [ms] |
| Trigger pulse | 1 |
| Trigger delay | 0 [ms] |
| Segments | 3 |
| Phases | 21 |

Angio

| | |
|----------------------|---------------|
| Flow mode | Single dir. |
| Encodings | 1 |
| Velocity enc. | 50 [cm/s] |
| Direction | Through plane |
| Rephased images | 1 |
| Magnitude images | 1 |
| Phase images | 1 |
| ----- | |
| Subtract | 0 |
| Std-Dev-Sag | 0 |
| Std-Dev-Cor | 0 |
| Std-Dev-Tra | 0 |
| Std-Dev-Time | 0 |
| MIP-Sag | 0 |
| MIP-Cor | 0 |
| MIP-Tra | 0 |
| MIP-Time | 0 |
| Save original images | 1 |

Sequence

| | |
|-----------------|-------------|
| Introduction | 0 |
| Averaging mode | Long term |
| Asymmetric echo | Allowed |
| Contrasts | 1 |
| Bandwidth | 385 [Hz/Px] |
| Flow comp. | No |
| ----- | |
| RF pulse type | Fast |
| Gradient mode | Normal |
| RF spoiling | 1 |

SIEMENS MAGNETOM Sonata syngo MR 2004A

\\USER\ZAHID RESEARCH001\HAACKE_MS_092809\Haacke_ms_8ch_01192010\localizer-CENTER AT CHIN

Scan Time: 0:11 Voxel size: 3.1x1.6x10.0 [mm] Rel. SNR: 1.00 SIEMENS: gre

Routine

| | |
|--------------------|-------------------|
| Slice group 1 | |
| Slices | 2 |
| Dist. factor | 50 [%] |
| Position | Isocenter |
| Orientation | Coronal |
| Phase enc. dir. | R >> L |
| Rotation | 0 [deg] |
| Slice group 2 | |
| Slices | 1 |
| Dist. factor | 20 [%] |
| Position | Isocenter |
| Orientation | Sagittal |
| Phase enc. dir. | A >> P |
| Rotation | 0 [deg] |
| Phase oversampling | 0 [%] |
| FoV read | 400 [mm] |
| FoV phase | 100.0 [%] |
| Slice thickness | 10 [mm] |
| TR | 24 [ms] |
| TE | 6 [ms] |
| Averages | 1 |
| Concatenations | 3 |
| Filter | Elliptical filter |
| Coil elements | NE1,NE2,SP1,SP2 |

Contrast

| | |
|-------------------|-----------|
| TD | 0 [ms] |
| MTC | 0 |
| Magn. preparation | None |
| Flip angle | 30 [deg] |
| Reconstruction | Magnitude |
| Fat suppr. | None |
| Water suppr. | None |
| Measurements | 1 |

Resolution

| | |
|-----------------------|--------|
| Base resolution | 256 |
| Phase resolution | 50 [%] |
| Phase partial Fourier | Off |
| Filter 1 | |
| Raw filter | Off |
| Filter 2 | |
| Large FoV | Off |
| Filter 3 | |
| Normalize | Off |
| Filter 4 | |
| Elliptical filter | On |
| Interpolation | 1 |
| ----- | |
| PAT mode | None |

Geometry

| | |
|------------------|-------------|
| Multi-slice mode | Sequential |
| Series | Interleaved |
| ----- | |
| Saturation mode | Standard |
| Special sat. | None |

System

| | |
|--------------------|-----------|
| Save uncombined | 0 |
| Scan at current TP | 1 |
| MSMA | S - C - T |
| Sagittal | R >> L |
| Coronal | A >> P |
| Transversal | F >> H |

| | |
|----------------------|---|
| CP Spine Array / SP3 | 0 |
| CP Spine Array / SP4 | 0 |
| CP Spine Array / SP5 | 0 |
| CP Spine Array / SP6 | 0 |
| CP Spine Array / SP1 | 1 |
| CP Spine Array / SP2 | 1 |
| CP Neck Array / NE1 | 1 |
| CP Neck Array / NE2 | 1 |
| Body | 0 |

| | |
|--------------------------|-------------|
| Shim mode | Tune up |
| Adjust with body coil | 0 |
| Confirm freq. adjustment | 0 |
| Assume Silicone | 0 |
| Ref. amplitude [1H] | 180.000 [V] |
| Adjust volume | |
| Position | Isocenter |
| Orientation | Transversal |
| Rotation | 0 [deg] |
| R >> L | 350 [mm] |
| A >> P | 263 [mm] |
| F >> H | 350 [mm] |

Physio

| | |
|-----------------|------|
| 1st Signal/Mode | None |
| Segments | 1 |
| ----- | |
| Tagging | None |
| Dark blood | 0 |
| ----- | |
| Resp. control | Off |

Inline

| | |
|----------------------|---|
| Subtract | 0 |
| Std-Dev-Sag | 0 |
| Std-Dev-Cor | 0 |
| Std-Dev-Tra | 0 |
| Std-Dev-Time | 0 |
| MIP-Sag | 0 |
| MIP-Cor | 0 |
| MIP-Tra | 0 |
| MIP-Time | 0 |
| Save original images | 1 |
| ----- | |
| Wash - In | 0 |
| Wash - Out | 0 |
| TTP | 0 |
| PEI | 0 |
| MIP - time | 0 |

Sequence

| | |
|---------------------|-------------|
| Introduction | 1 |
| Dimension | 2D |
| Phase stabilisation | 0 |
| Averaging mode | Short term |
| Asymmetric echo | Off |
| Contrasts | 1 |
| Bandwidth | 130 [Hz/Px] |
| Flow comp. | No |
| ----- | |
| RF pulse type | Fast |
| Gradient mode | Normal |
| Excitation | Slice-sel. |
| RF spoiling | 1 |

SIEMENS MAGNETOM Sonata syngo MR 2004A

\\USER\ZAHID RESEARCH001\HAACKE_MS_092809\Haacke_ms_8ch_01192010\tof_fl2d_tra-neck

Scan Time: 8:47 Voxel size: 1.0x0.5x2.5 [mm] Rel. SNR: 1.00 SIEMENS: fl_tof

Routine

| | |
|--------------------|----------------------|
| Slice group 1 | |
| Slices | 128 |
| Dist. factor | -33.00 [%] |
| Position | L0.0 A20.3 F1.0 [mm] |
| Orientation | Transversal |
| Phase enc. dir. | R >> L |
| Rotation | 90 [deg] |
| Phase oversampling | 0 [%] |
| FoV read | 256 [mm] |
| FoV phase | 75.0 [%] |
| Slice thickness | 2.5 [mm] |
| TR | 26 [ms] |
| TE | 7.2 [ms] |
| Averages | 1 |
| Concatenations | 128 |
| Filter | None |
| Coil elements | HE,NE1,NE2,... |

Contrast

| | |
|----------------|-----------|
| TD | 0 [ms] |
| MTC | 0 |
| Flip angle | 70 [deg] |
| Reconstruction | Magnitude |
| Fat suppr. | None |
| Water suppr. | None |
| Measurements | 1 |

Resolution

| | |
|-----------------------|--------|
| Base resolution | 512 |
| Phase resolution | 50 [%] |
| Phase partial Fourier | 6/8 |
| Filter 1 | |
| Raw filter | Off |
| Filter 2 | |
| Large FoV | Off |
| Filter 3 | |
| Normalize | Off |
| Filter 4 | |
| Elliptical filter | Off |
| Interpolation | 0 |
| ----- | |
| PAT mode | None |

Geometry

| | |
|------------------|------------|
| Multi-slice mode | Sequential |
| Series | Ascending |
| ----- | |
| Special sat. | Tracking F |
| Gap | 10 [mm] |
| Thickness | 40 [mm] |

System

| | |
|----------------------|-----------|
| Save uncombined | 0 |
| Scan at current TP | 0 |
| Scan region position | H |
| Scan region position | 0 [mm] |
| MSMA | S - C - T |
| Sagittal | R >> L |
| Coronal | A >> P |
| Transversal | F >> H |
| CP Spine Array / SP3 | 0 |
| CP Spine Array / SP4 | 0 |
| CP Spine Array / SP5 | 0 |
| CP Spine Array / SP6 | 0 |
| CP Spine Array / SP1 | 1 |
| CP Spine Array / SP2 | 1 |

| | |
|--------------------------|-------------|
| CP Neck Array / NE1 | 1 |
| CP Neck Array / NE2 | 1 |
| CP Head Array / HE | 1 |
| Body | 0 |
| ----- | |
| Shim mode | Tune up |
| Adjust with body coil | 0 |
| Confirm freq. adjustment | 0 |
| Assume Silicone | 0 |
| Ref. amplitude [1H] | 180.000 [V] |
| Adjust volume | |
| Position | Isocenter |
| Orientation | Transversal |
| Rotation | 0 [deg] |
| R >> L | 350 [mm] |
| A >> P | 263 [mm] |
| F >> H | 350 [mm] |

Physio

| | |
|-----------------|------|
| 1st Signal/Mode | None |
| ----- | |
| Dark blood | 0 |

Angio

| | |
|----------------------|---|
| Subtract | 0 |
| Std-Dev-Sag | 0 |
| Std-Dev-Cor | 0 |
| Std-Dev-Tra | 0 |
| Std-Dev-Time | 0 |
| MIP-Sag | 1 |
| MIP-Cor | 1 |
| MIP-Tra | 1 |
| MIP-Time | 0 |
| Save original images | 1 |

Sequence

| | |
|-----------------|------------|
| Introduction | 1 |
| Dimension | 2D |
| Averaging mode | Short term |
| Asymmetric echo | Allowed |
| Contrasts | 1 |
| Bandwidth | 81 [Hz/Px] |
| Flow comp. | Yes |
| ----- | |
| Gradient mode | Fast |
| RF spoiling | 1 |

SIEMENS MAGNETOM Sonata syngo MR 2004A

\\USER\ZAHID RESEARCH001\HAACKE_MS_092809\Haacke_ms_8ch_01192010\DYNAMIC_fl3d_ce_cor-15

Scan Time: 4:02 Voxel size: 0.9x0.9x0.9 [mm] Rel. SNR: 1.00 SIEMENS: fl3d_ce

Routine

| | |
|--------------------|-----------------------|
| Slab group 1 | |
| Slabs | 1 |
| Dist. factor | 20 [%] |
| Position | L0.0 A37.6 F13.9 [mm] |
| Orientation | C > T6.8 |
| Phase enc. dir. | R >> L |
| Rotation | 0 [deg] |
| Phase oversampling | 0 [%] |
| Slice oversampling | 0 [%] |
| Slices per slab | 96 |
| FoV read | 340 [mm] |
| FoV phase | 75.0 [%] |
| Slice thickness | 0.9 [mm] |
| TR | 3.66 [ms] |
| TE | 1.36 [ms] |
| Averages | 1 |
| Concatenations | 1 |
| Filter | None |
| Coil elements | HE,NE1,NE2,... |

Contrast

| | |
|----------------------|-----------|
| Magn. preparation | None |
| Flip angle | 30 [deg] |
| Reconstruction | Magnitude |
| Fat suppr. | None |
| Water suppr. | None |
| Measurements | 15 |
| Pause after meas. 1 | 0 [s] |
| Pause after meas. 2 | 0 [s] |
| Pause after meas. 3 | 0 [s] |
| Pause after meas. 4 | 0 [s] |
| Pause after meas. 5 | 0 [s] |
| Pause after meas. 6 | 0 [s] |
| Pause after meas. 7 | 0 [s] |
| Pause after meas. 8 | 0 [s] |
| Pause after meas. 9 | 0 [s] |
| Pause after meas. 10 | 0 [s] |
| Pause after meas. 11 | 0 [s] |
| Pause after meas. 12 | 0 [s] |
| Pause after meas. 13 | 0 [s] |
| Pause after meas. 14 | 0 [s] |
| Multiple series | 1 |

Resolution

| | |
|-----------------------|---------|
| Base resolution | 384 |
| Phase resolution | 100 [%] |
| Slice resolution | 60 [%] |
| Phase partial Fourier | 6/8 |
| Slice partial Fourier | 6/8 |
| Filter 1 | |
| Raw filter | Off |
| Filter 2 | |
| Large FoV | Off |
| Filter 3 | |
| Normalize | Off |
| Filter 4 | |
| Elliptical filter | Off |
| Interpolation | 0 |
| <hr/> | |
| PAT mode | GRAPPA |
| Accel. factor PE | 3 |
| Ref. lines PE | 24 |

Geometry

| | |
|------------------|------------|
| Multi-slice mode | Sequential |
|------------------|------------|

Series

Special sat. None

System

| | |
|----------------------|-----------|
| Save uncombined | 0 |
| Scan at current TP | 0 |
| Scan region position | H |
| Scan region position | 0 [mm] |
| MSMA | S - C - T |
| Sagittal | R >> L |
| Coronal | A >> P |
| Transversal | F >> H |
| CP Spine Array / SP3 | 0 |
| CP Spine Array / SP4 | 0 |
| CP Spine Array / SP5 | 0 |
| CP Spine Array / SP6 | 0 |
| CP Spine Array / SP1 | 1 |
| CP Spine Array / SP2 | 1 |
| CP Neck Array / NE1 | 1 |
| CP Neck Array / NE2 | 1 |
| CP Head Array / HE | 1 |
| Body | 0 |

| | |
|--------------------------|-------------|
| Shim mode | Tune up |
| Adjust with body coil | 0 |
| Confirm freq. adjustment | 0 |
| Assume Silicone | 0 |
| Ref. amplitude [1H] | 180.000 [V] |
| Adjust volume | |
| Position | Isocenter |
| Orientation | Transversal |
| Rotation | 0 [deg] |
| R >> L | 350 [mm] |
| A >> P | 263 [mm] |
| F >> H | 350 [mm] |

Physio

| | |
|-----------------|------|
| 1st Signal/Mode | None |
| Segments | 1 |

Angio

| | |
|-----------------------|---------|
| 3D centric reordering | 1 |
| Time to center | 0.5 [s] |

| | |
|----------------------|---|
| Subtract | 0 |
| Std-Dev-Sag | 0 |
| Std-Dev-Cor | 0 |
| Std-Dev-Tra | 0 |
| Std-Dev-Time | 0 |
| MIP-Sag | 0 |
| MIP-Cor | 1 |
| MIP-Tra | 0 |
| MIP-Time | 0 |
| Save original images | 1 |

Sequence

| | |
|---------------------|-------------|
| Introduction | 0 |
| Dimension | 3D |
| Elliptical scanning | 0 |
| Averaging mode | Short term |
| Asymmetric echo | Allowed |
| Bandwidth | 420 [Hz/Px] |
| <hr/> | |
| RF pulse type | Normal |
| Gradient mode | Fast |
| RF spoiling | 1 |

SIEMENS MAGNETOM Sonata syngo MR 2004A

\\USER\ZAHID RESEARCH001\HAACKE_MS_092809\Haacke_ms_8ch_01192010\HI RES COR 3D POST GAD

+ Scan Time: 7:20 Voxel size: 0.6x0.6x1.3 [mm] Rel. SNR: 1.00 SIEMENS: fl_tof

Routine

| | |
|--------------------|-----------------------|
| Slab group 1 | |
| Slabs | 1 |
| Dist. factor | -11.25 [%] |
| Position | L0.0 A37.6 F13.9 [mm] |
| Orientation | C > T6.8 |
| Phase enc. dir. | R >> L |
| Rotation | 0 [deg] |
| Phase oversampling | 0 [%] |
| Slice oversampling | 10 [%] |
| Slices per slab | 80 |
| FoV read | 400 [mm] |
| FoV phase | 100.0 [%] |
| Slice thickness | 1.25 [mm] |
| TR | 15 [ms] |
| TE | 3.77 [ms] |
| Averages | 1 |
| Concatenations | 1 |
| Filter | None |
| Coil elements | HE,NE1,NE2,... |

Contrast

| | |
|----------------|-----------|
| MTC | 0 |
| Flip angle | 30 [deg] |
| Reconstruction | Magnitude |
| Fat suppr. | None |
| Water suppr. | None |
| Measurements | 1 |

Resolution

| | |
|-----------------------|---------|
| Base resolution | 640 |
| Phase resolution | 100 [%] |
| Slice resolution | 100 [%] |
| Phase partial Fourier | Off |
| Slice partial Fourier | Off |
| Filter 1 | |
| Raw filter | Off |
| Filter 2 | |
| Large FoV | Off |
| Filter 3 | |
| Normalize | Off |
| Filter 4 | |
| Elliptical filter | Off |
| Interpolation | 0 |
| ----- | |
| PAT mode | GRAPPA |
| Accel. factor PE | 2 |
| Ref. lines PE | 24 |

Geometry

| | |
|------------------|------------|
| Multi-slice mode | Sequential |
| Series | Descending |
| ----- | |
| Special sat. | None |

System

| | |
|----------------------|-----------|
| Save uncombined | 0 |
| Scan at current TP | 0 |
| Scan region position | H |
| Scan region position | 0 [mm] |
| MSMA | S - C - T |
| Sagittal | R >> L |
| Coronal | A >> P |
| Transversal | F >> H |
| CP Spine Array / SP3 | 0 |
| CP Spine Array / SP4 | 0 |
| CP Spine Array / SP5 | 0 |

| | |
|----------------------|---|
| CP Spine Array / SP6 | 0 |
| CP Spine Array / SP1 | 1 |
| CP Spine Array / SP2 | 1 |
| CP Neck Array / NE1 | 1 |
| CP Neck Array / NE2 | 1 |
| CP Head Array / HE | 1 |
| Body | 0 |

| | |
|--------------------------|-----------------------|
| ----- | |
| Shim mode | Standard |
| Adjust with body coil | 0 |
| Confirm freq. adjustment | 0 |
| Assume Silicone | 0 |
| Ref. amplitude [1H] | 180.000 [V] |
| Adjust volume | |
| Position | L0.0 A37.6 F13.9 [mm] |
| Orientation | C > T6.8 |
| Rotation | 0 [deg] |
| F >> H | 400 [mm] |
| R >> L | 400 [mm] |
| A >> P | 100 [mm] |

Physio

| | |
|-----------------|------|
| 1st Signal/Mode | None |
| ----- | |
| Dark blood | 0 |

Angio

| | |
|----------------------|--------|
| Inflow | Slow |
| Flow direction | A >> P |
| ----- | |
| Subtract | 0 |
| Std-Dev-Sag | 0 |
| Std-Dev-Cor | 0 |
| Std-Dev-Tra | 0 |
| Std-Dev-Time | 0 |
| MIP-Sag | 1 |
| MIP-Cor | 1 |
| MIP-Tra | 1 |
| MIP-Time | 0 |
| Save original images | 1 |

Sequence

| | |
|---------------------|-------------|
| Introduction | 1 |
| Dimension | 3D |
| Elliptical scanning | 0 |
| Averaging mode | Short term |
| Asymmetric echo | Allowed |
| Contrasts | 1 |
| Bandwidth | 100 [Hz/Px] |
| Flow comp. | Yes |
| ----- | |
| Gradient mode | Fast |
| RF spoiling | 1 |

Table of contents

| | | | | |
|--------|-------------------|------------------|------------------------|--------------------------|
| \\USER | ZAHID RESEARCH001 | HAACKE_MS_092809 | Haacke_ms_8ch_01192010 | localizer |
| | | | | SWI_1X.5X2_HEAD_NECK |
| | | | | tof_fl2d_tra |
| | | | | flash_50_through-plane |
| | | | | localizer-CENTER AT CHIN |
| | | | | tof_fl2d_tra-neck |
| | | | | inject contrast |
| | | | | DYNAMIC_fl3d_ce_cor-15 |
| | | | | HI RES COR 3D POST GAD |