

# SIEMENS MAGNETOM Verio syngo MR B17

\\USER\projects\imagen\_fu3\imagen3,noddi\localizer

TA: 0:29 PAT: Off Voxel size: 1.1x1.0x7.0 mm Rel. SNR: 1.00 SIEMENS: gre

## Properties

|   |        |
|---|--------|
| Prio Recon                                    | Off    |
| Before measurement                            |        |
| After measurement                             |        |
| Load to viewer                                | On     |
| Inline movie                                  | Off    |
| Auto store images                             | On     |
| Load to stamp segments                        | Off    |
| Load images to graphic segments               | Off    |
| Auto open inline display                      | Off    |
| Start measurement without further preparation | On     |
| Wait for user to start                        | Off    |
| Start measurements                            | single |

## Routine

|                    |  |
|--------------------|--|
| Slice group 1      |  |
| Slices             | 5  |
| Dist. factor       | 250 %  |
| Position           | Isocenter  |
| Orientation        | Sagittal   |
| Phase enc. dir.    | A >> P   |
| Rotation           | 0.00 deg   |
| Slice group 2      |  |
| Slices             | 1  |
| Dist. factor       | 20 %   |
| Position           | Isocenter  |
| Orientation        | Transversal  |
| Phase enc. dir.    | A >> P   |
| Rotation           | 0.00 deg   |
| Slice group 3      |  |
| Slices             | 1  |
| Dist. factor       | 20 %   |
| Position           | Isocenter  |
| Orientation        | Coronal  |
| Phase enc. dir.    | R >> L   |
| Rotation           | 0.00 deg   |
| Phase oversampling | 0 %  |
| FoV read           | 250 mm   |
| FoV phase          | 100.0 %  |
| Slice thickness    | 7.0 mm   |
| TR                 | 8.6 ms   |
| TE                 | 4.00 ms  |
| Averages           | 2  |
| Concatenations     | 7  |
| Filter             | Distortion Corr.(2D), Prescan Normalize, Elliptical filter |
| Coil elements      | HEA;HEP  |

## Contrast

|                   |                  |
|-------------------|------------------|
| TD                | 0 ms             |
| MTC               | Off              |
| Magn. preparation | None             |
| Flip angle        | 20 deg           |
| Fat suppr.        | None             |
| Water suppr.      | None             |
| Averaging mode    | Short term       |
| Reconstruction    | Magnitude        |
| Measurements      | 1                |
| Multiple series   | Each measurement |

## Resolution

|                  |      |
|------------------|------|
| Base resolution  | 256  |
| Phase resolution | 90 % |

|                       |         |
|-----------------------|---------|
| Phase partial Fourier | Off     |
| Interpolation         | On      |
| PAT mode              | None    |
| Matrix Coil Mode      | CP      |
| Image Filter          | Off     |
| Distortion Corr. Mode | On      |
| Unfiltered images     | 2D      |
| Unfiltered images     | Off     |
| Prescan Normalize     | Off     |
| Normalize             | Off     |
| B1 filter             | Off     |
| Raw filter            | Off     |
| Elliptical filter     | On      |
| Mode                  | Inplane |

## Geometry

|                   |             |
|-------------------|-------------|
| Multi-slice mode  | Sequential  |
| Series            | Interleaved |
| Saturation mode   | Standard    |
| Special sat.      | None        |
| Set-n-Go Protocol | Off         |
| Table position    | H           |
| Table position    | 0 mm        |
| Inline Composing  | Off         |

## System

|                          |                |
|--------------------------|----------------|
| Body                     | Off            |
| HEP                      | On             |
| HEA                      | On             |
| Positioning mode         | REF            |
| MSMA                     | S - C - T      |
| Sagittal                 | L >> R         |
| Coronal                  | P >> A         |
| Transversal              | F >> H         |
| Coil Combine Mode        | Sum of Squares |
| AutoAlign                | ---            |
| Auto Coil Select         | Default        |
| Shim mode                | Tune up        |
| Adjust with body coil    | Off            |
| Confirm freq. adjustment | Off            |
| Assume Silicone          | Off            |
| ? Ref. amplitude 1H      | 0.000 V        |
| Adjustment Tolerance     | Auto           |
| Adjust volume            |                |
| Position                 | Isocenter      |
| Orientation              | Transversal    |
| Rotation                 | 0.00 deg       |
| R >> L                   | 350 mm         |
| A >> P                   | 263 mm         |
| F >> H                   | 350 mm         |

## Physio

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

## Inline

|          |     |
|----------|-----|
| Subtract | Off |
|----------|-----|

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|                      |     |
|----------------------|-----|
| Liver registration   | Off |
| Std-Dev-Sag          | Off |
| Std-Dev-Cor          | Off |
| Std-Dev-Tra          | Off |
| Std-Dev-Time         | Off |
| MIP-Sag              | Off |
| MIP-Cor              | Off |
| MIP-Tra              | Off |
| MIP-Time             | Off |
| Save original images | On  |
| <hr/>                |     |
| Wash - In            | Off |
| Wash - Out           | Off |
| TTP                  | Off |
| PEI                  | Off |
| MIP - time           | Off |
| <hr/>                |     |

## Sequence

|                     |            |
|---------------------|------------|
| Introduction        | On         |
| Dimension           | 2D         |
| Phase stabilisation | Off        |
| Asymmetric echo     | Allowed    |
| Contrasts           | 1          |
| Bandwidth           | 320 Hz/Px  |
| Flow comp.          | No         |
| Allowed delay       | 0 s        |
| <hr/>               |            |
| RF pulse type       | Normal     |
| Gradient mode       | Normal     |
| Excitation          | Slice-sel. |
| RF spoiling         | On         |

# SIEMENS MAGNETOM Verio syngo MR B17

\\USER\projects\imagen\_fu3\imagen3,noddi\MPRAGE,GRAPPA2

TA: 5:03 PAT: 2 Voxel size: 1.1x1.1x1.1 mm Rel. SNR: 1.00 SIEMENS: tfl

## Properties

|   |        |
|---|--------|
| Prio Recon                                    | Off    |
| Before measurement                            |        |
| After measurement                             |        |
| Load to viewer                                | On     |
| Inline movie                                  | Off    |
| Auto store images                             | On     |
| Load to stamp segments                        | Off    |
| Load images to graphic segments               | Off    |
| Auto open inline display                      | Off    |
| Start measurement without further preparation | On     |
| Wait for user to start                        | On     |
| Start measurements                            | single |

## Routine

|                    |                               |
|--------------------|-------------------------------|
| Slab group 1       |                               |
| Slabs              | 1                             |
| Dist. factor       | 50 %                          |
| Position           | L3.8 A3.1 F48.0               |
| Orientation        | Sagittal                      |
| Phase enc. dir.    | A >> P                        |
| Rotation           | 0.00 deg                      |
| Phase oversampling | 0 %                           |
| Slice oversampling | 0.0 %                         |
| Slices per slab    | 160                           |
| FoV read           | 280 mm                        |
| FoV phase          | 93.8 %                        |
| Slice thickness    | 1.10 mm                       |
| TR                 | 2300 ms                       |
| TE                 | 2.93 ms                       |
| Averages           | 1                             |
| Concatenations     | 1                             |
| Filter             | Distortion Corr.(2D), Prescan |
|                    | Normalize                     |
| Coil elements      | HEA;HEP                       |

## Contrast

|                   |             |
|-------------------|-------------|
| Magn. preparation | Non-sel. IR |
| TI                | 900 ms      |
| Flip angle        | 9 deg       |
| Fat suppr.        | None        |
| Water suppr.      | None        |
| Averaging mode    | Long term   |
| Reconstruction    | Magnitude   |
| Measurements      | 1           |
| Multiple series   | Off         |

## Resolution

|                       |               |
|-----------------------|---------------|
| Base resolution       | 256           |
| Phase resolution      | 100 %         |
| Slice resolution      | 100 %         |
| Phase partial Fourier | Off           |
| Slice partial Fourier | Off           |
| Interpolation         | Off           |
| PAT mode              | GRAPPA        |
| Accel. factor PE      | 2             |
| Ref. lines PE         | 24            |
| Accel. factor 3D      | 1             |
| Matrix Coil Mode      | Auto (Triple) |
| Reference scan mode   | Integrated    |
| Image Filter          | Off           |

|                   |     |
|-------------------|-----|
| Distortion Corr.  | On  |
| Mode              | 2D  |
| Unfiltered images | On  |
| Unfiltered images | Off |
| Prescan Normalize | On  |
| Normalize         | Off |
| B1 filter         | Off |
| Raw filter        | Off |
| Elliptical filter | Off |

## Geometry

|                   |             |
|-------------------|-------------|
| Multi-slice mode  | Single shot |
| Series            | Interleaved |
| Set-n-Go Protocol | Off         |
| Table position    | F           |
| Table position    | 48 mm       |
| Inline Composing  | Off         |

## System

|                          |                 |
|--------------------------|-----------------|
| Body                     | Off             |
| HEP                      | On              |
| HEA                      | On              |
| Positioning mode         | ISO             |
| MSMA                     | S - C - T       |
| Sagittal                 | L >> R          |
| Coronal                  | P >> A          |
| Transversal              | F >> H          |
| Save uncombined          | Off             |
| Coil Combine Mode        | Sum of Squares  |
| AutoAlign                | ---             |
| Auto Coil Select         | Default         |
| Shim mode                | Standard        |
| Adjust with body coil    | Off             |
| Confirm freq. adjustment | Off             |
| Assume Silicone          | Off             |
| ? Ref. amplitude 1H      | 0.000 V         |
| Adjustment Tolerance     | Auto            |
| Adjust volume            |                 |
| Position                 | L3.8 A3.1 F48.0 |
| Orientation              | Sagittal        |
| Rotation                 | 0.00 deg        |
| F >> H                   | 280 mm          |
| A >> P                   | 263 mm          |
| R >> L                   | 176 mm          |

## Physio

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

## Inline

|                      |     |
|----------------------|-----|
| Subtract             | Off |
| Std-Dev-Sag          | Off |
| Std-Dev-Cor          | Off |
| Std-Dev-Tra          | Off |
| Std-Dev-Time         | Off |
| MIP-Sag              | Off |
| MIP-Cor              | Off |
| MIP-Tra              | Off |
| MIP-Time             | Off |
| Save original images | On  |

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### Sequence

|                     |           |
|---------------------|-----------|
| Introduction        | On        |
| Dimension           | 3D        |
| Elliptical scanning | Off       |
| Asymmetric echo     | Off       |
| Bandwidth           | 240 Hz/Px |
| Flow comp.          | No        |
| Echo spacing        | 6.9 ms    |
| <hr/>               |           |
| RF pulse type       | Fast      |
| Gradient mode       | Normal    |
| Excitation          | Non-sel.  |
| RF spoiling         | On        |

# SIEMENS MAGNETOM Verio syngo MR B17

\\USER\projects\imagen\_fu3\imagen3,noddi\noddi,correction

TA: 0:28 PAT: Off Voxel size: 2.0x2.0x2.0 mm Rel. SNR: 1.00 USER: cmrr\_mbep2d\_diff

## Properties

|   |        |
|---|--------|
| Prio Recon                                    | Off    |
| Before measurement                            |        |
| After measurement                             |        |
| Load to viewer                                | On     |
| Inline movie                                  | Off    |
| Auto store images                             | On     |
| Load to stamp segments                        | Off    |
| Load images to graphic segments               | Off    |
| Auto open inline display                      | Off    |
| Start measurement without further preparation | On     |
| Wait for user to start                        | On     |
| Start measurements                            | single |

## Routine

|                          |                 |
|--------------------------|-----------------|
| Slice group 1            |                 |
| Slices                   | 66              |
| Dist. factor             | 0 %             |
| Position                 | L0.0 P0.0 H10.0 |
| Orientation              | Transversal     |
| Phase enc. dir.          | A >> P          |
| Rotation                 | 0.00 deg        |
| Phase oversampling       | 0 %             |
| FoV read                 | 256 mm          |
| FoV phase                | 100.0 %         |
| Slice thickness          | 2.00 mm         |
| TR                       | 3500 ms         |
| TE                       | 99.0 ms         |
| Multi-band accel. factor | 3               |
| Filter                   | Raw filter      |
| Coil elements            | HEA;HEP         |

## Contrast

|                       |           |
|-----------------------|-----------|
| MTC                   | Off       |
| Magn. preparation     | None      |
| Flip angle            | 80 deg    |
| Refocus flip angle    | 168 deg   |
| Fat suppr.            | None      |
| Grad. rev. fat suppr. | Enabled   |
| Averaging mode        | Long term |
| Reconstruction        | Magnitude |
| Measurements          | 1         |
| Delay in TR           | 0 ms      |
| Multiple series       | Off       |

## Resolution

|                       |           |
|-----------------------|-----------|
| Base resolution       | 128       |
| Phase resolution      | 100 %     |
| Phase partial Fourier | 6/8       |
| Interpolation         | Off       |
| PAT mode              | None      |
| Matrix Coil Mode      | Auto (CP) |
| Distortion Corr.      | Off       |
| Prescan Normalize     | Off       |
| Raw filter            | On        |
| Intensity             | Weak      |
| Slope                 | 25        |
| Elliptical filter     | Off       |
| Hamming               | Off       |

## Geometry

|                  |             |
|------------------|-------------|
| Multi-slice mode | Interleaved |
|------------------|-------------|

## Series

## Interleaved

|                   |      |
|-------------------|------|
| Special sat.      | None |
| Set-n-Go Protocol | Off  |
| Table position    | H    |
| Table position    | 0 mm |
| Inline Composing  | Off  |

## System

|                          |                 |
|--------------------------|-----------------|
| Body                     | Off             |
| HEP                      | On              |
| HEA                      | On              |
| Positioning mode         | REF             |
| MSMA                     | S - C - T       |
| Sagittal                 | R >> L          |
| Coronal                  | A >> P          |
| Transversal              | F >> H          |
| Coil Combine Mode        | Sum of Squares  |
| AutoAlign                | ---             |
| Auto Coil Select         | Default         |
| Shim mode                | Standard        |
| Adjust with body coil    | Off             |
| Confirm freq. adjustment | Off             |
| Assume Silicone          | Off             |
| ? Ref. amplitude 1H      | 0.000 V         |
| Adjustment Tolerance     | Auto            |
| Adjust volume            |                 |
| Position                 | L0.0 P0.0 H10.0 |
| Orientation              | Transversal     |
| Rotation                 | 0.00 deg        |
| R >> L                   | 256 mm          |
| A >> P                   | 256 mm          |
| F >> H                   | 132 mm          |

## Physio

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

## Diff

|                       |            |
|-----------------------|------------|
| Diffusion mode        | Free       |
| Diff. weightings      | 1          |
| b-value               | 2000 s/mm² |
| Diff. weighted images | On         |
| Trace weighted images | Off        |
| Average ADC maps      | Off        |
| Individual ADC maps   | Off        |
| FA maps               | Off        |
| Mosaic                | On         |
| Tensor                | Off        |
| Noise level           | 40         |
| Diff. directions      | 4          |

## Sequence

|                        |            |
|------------------------|------------|
| Introduction           | Off        |
| Bandwidth              | 1628 Hz/Px |
| Free echo spacing      | On         |
| Echo spacing           | 0.69 ms    |
| EPI factor             | 128        |
| Gradient mode          | Fast       |
| RF spoiling            | Off        |
| Excite pulse duration  | 3200 us    |
| Refocus pulse duration | 7040 us    |
| Diffusion Scheme       | Monopolar  |
| Single-band images     | Off        |

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|                          |        |
|--------------------------|--------|
| MB LeakBlock kernel      | On     |
| MB dual kernel           | Off    |
| MB RF phase scramble     | Off    |
| Time-shifted MB RF       | Off    |
| SENSE1 coil combine      | On     |
| Invert RO/PE polarity    | On     |
| Online multi-band recon. | Online |
| FFT scale factor         | 1.00   |
| Physio recording         | Off    |

# SIEMENS MAGNETOM Verio syngo MR B17

\\USER\projects\imagen\_fu3\imagen3,noddi\noddi,dir200

TA: 11:54 PAT: Off Voxel size: 2.0x2.0x2.0 mm Rel. SNR: 1.00 USER: cmrr\_mbep2d\_diff

## Properties

|   |        |
|---|--------|
| Prio Recon                                    | Off    |
| Before measurement                            |        |
| After measurement                             |        |
| Load to viewer                                | On     |
| Inline movie                                  | Off    |
| Auto store images                             | On     |
| Load to stamp segments                        | Off    |
| Load images to graphic segments               | Off    |
| Auto open inline display                      | Off    |
| Start measurement without further preparation | On     |
| Wait for user to start                        | On     |
| Start measurements                            | single |

## Routine

|                          |                 |
|--------------------------|-----------------|
| Slice group 1            |                 |
| Slices                   | 66              |
| Dist. factor             | 0 %             |
| Position                 | L0.0 P0.0 H10.0 |
| Orientation              | Transversal     |
| Phase enc. dir.          | A >> P          |
| Rotation                 | 0.00 deg        |
| Phase oversampling       | 0 %             |
| FoV read                 | 256 mm          |
| FoV phase                | 100.0 %         |
| Slice thickness          | 2.00 mm         |
| TR                       | 3500 ms         |
| TE                       | 99.0 ms         |
| Multi-band accel. factor | 3               |
| Filter                   | Raw filter      |
| Coil elements            | HEA;HEP         |

## Contrast

|                       |           |
|-----------------------|-----------|
| MTC                   | Off       |
| Magn. preparation     | None      |
| Flip angle            | 80 deg    |
| Refocus flip angle    | 168 deg   |
| Fat suppr.            | None      |
| Grad. rev. fat suppr. | Enabled   |
| Averaging mode        | Long term |
| Reconstruction        | Magnitude |
| Measurements          | 1         |
| Delay in TR           | 0 ms      |
| Multiple series       | Off       |

## Resolution

|                       |           |
|-----------------------|-----------|
| Base resolution       | 128       |
| Phase resolution      | 100 %     |
| Phase partial Fourier | 6/8       |
| Interpolation         | Off       |
| PAT mode              | None      |
| Matrix Coil Mode      | Auto (CP) |
| Distortion Corr.      | Off       |
| Prescan Normalize     | Off       |
| Raw filter            | On        |
| Intensity             | Weak      |
| Slope                 | 25        |
| Elliptical filter     | Off       |
| Hamming               | Off       |

## Geometry

|                  |             |
|------------------|-------------|
| Multi-slice mode | Interleaved |
|------------------|-------------|

## Series

|                   |      |
|-------------------|------|
| Special sat.      | None |
| Set-n-Go Protocol | Off  |
| Table position    | H    |
| Table position    | 0 mm |
| Inline Composing  | Off  |

## System

|                          |                 |
|--------------------------|-----------------|
| Body                     | Off             |
| HEP                      | On              |
| HEA                      | On              |
| Positioning mode         | FIX             |
| MSMA                     | S - C - T       |
| Sagittal                 | R >> L          |
| Coronal                  | A >> P          |
| Transversal              | F >> H          |
| Coil Combine Mode        | Sum of Squares  |
| AutoAlign                | ---             |
| Auto Coil Select         | Default         |
| Shim mode                | Standard        |
| Adjust with body coil    | Off             |
| Confirm freq. adjustment | Off             |
| Assume Silicone          | Off             |
| ? Ref. amplitude 1H      | 0.000 V         |
| Adjustment Tolerance     | Auto            |
| Adjust volume            |                 |
| Position                 | L0.0 P0.0 H10.0 |
| Orientation              | Transversal     |
| Rotation                 | 0.00 deg        |
| R >> L                   | 256 mm          |
| A >> P                   | 256 mm          |
| F >> H                   | 132 mm          |

## Physio

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

## Diff

|                       |            |
|-----------------------|------------|
| Diffusion mode        | Free       |
| Diff. weightings      | 1          |
| b-value               | 2000 s/mm² |
| Diff. weighted images | On         |
| Trace weighted images | Off        |
| Average ADC maps      | Off        |
| Individual ADC maps   | Off        |
| FA maps               | Off        |
| Mosaic                | On         |
| Tensor                | Off        |
| Noise level           | 40         |
| Diff. directions      | 200        |

## Sequence

|                        |            |
|------------------------|------------|
| Introduction           | Off        |
| Bandwidth              | 1628 Hz/Px |
| Free echo spacing      | On         |
| Echo spacing           | 0.69 ms    |
| EPI factor             | 128        |
| Gradient mode          | Fast       |
| RF spoiling            | Off        |
| Excite pulse duration  | 3200 us    |
| Refocus pulse duration | 7040 us    |
| Diffusion Scheme       | Monopolar  |
| Single-band images     | Off        |

## SIEMENS MAGNETOM Verio syngo MR B17

|                          |        |
|--------------------------|--------|
| MB LeakBlock kernel      | On     |
| MB dual kernel           | Off    |
| MB RF phase scramble     | Off    |
| Time-shifted MB RF       | Off    |
| SENSE1 coil combine      | On     |
| Invert RO/PE polarity    | Off    |
| Online multi-band recon. | Online |
| FFT scale factor         | 1.00   |
| Physio recording         | Off    |