Intensity Non-uniformity Correction in Multi-section Whole Body MRI

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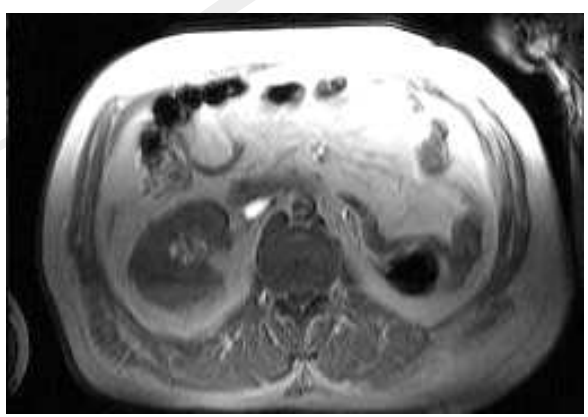
Types of Intensity Non-uniformity

1. Intra-Image:
2. Inter-Image:
3. Inter-Volume:



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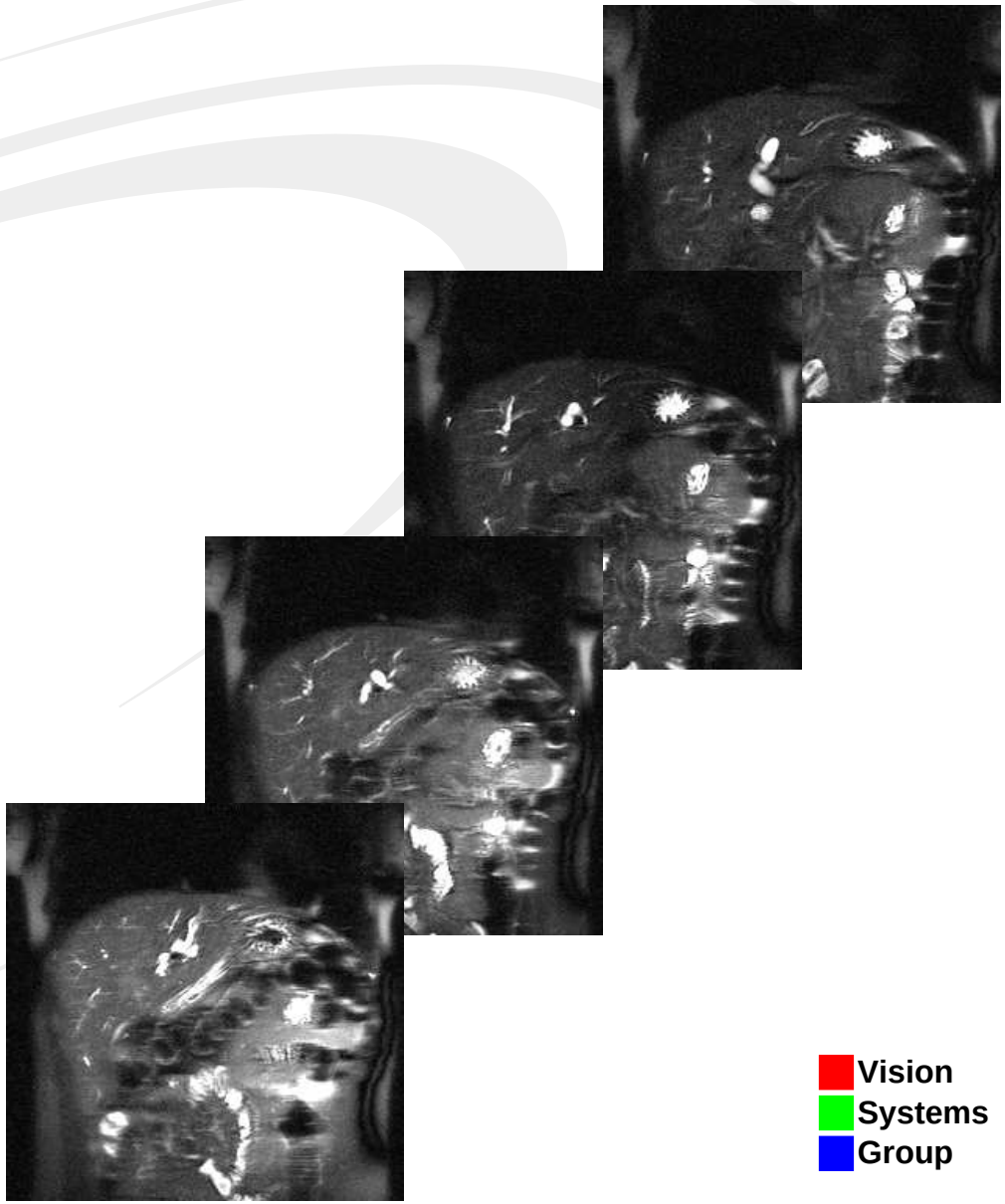
Types of Intensity Non-uniformity

1. Intra-Image:
2. Inter-Image:
3. Inter-Volume:



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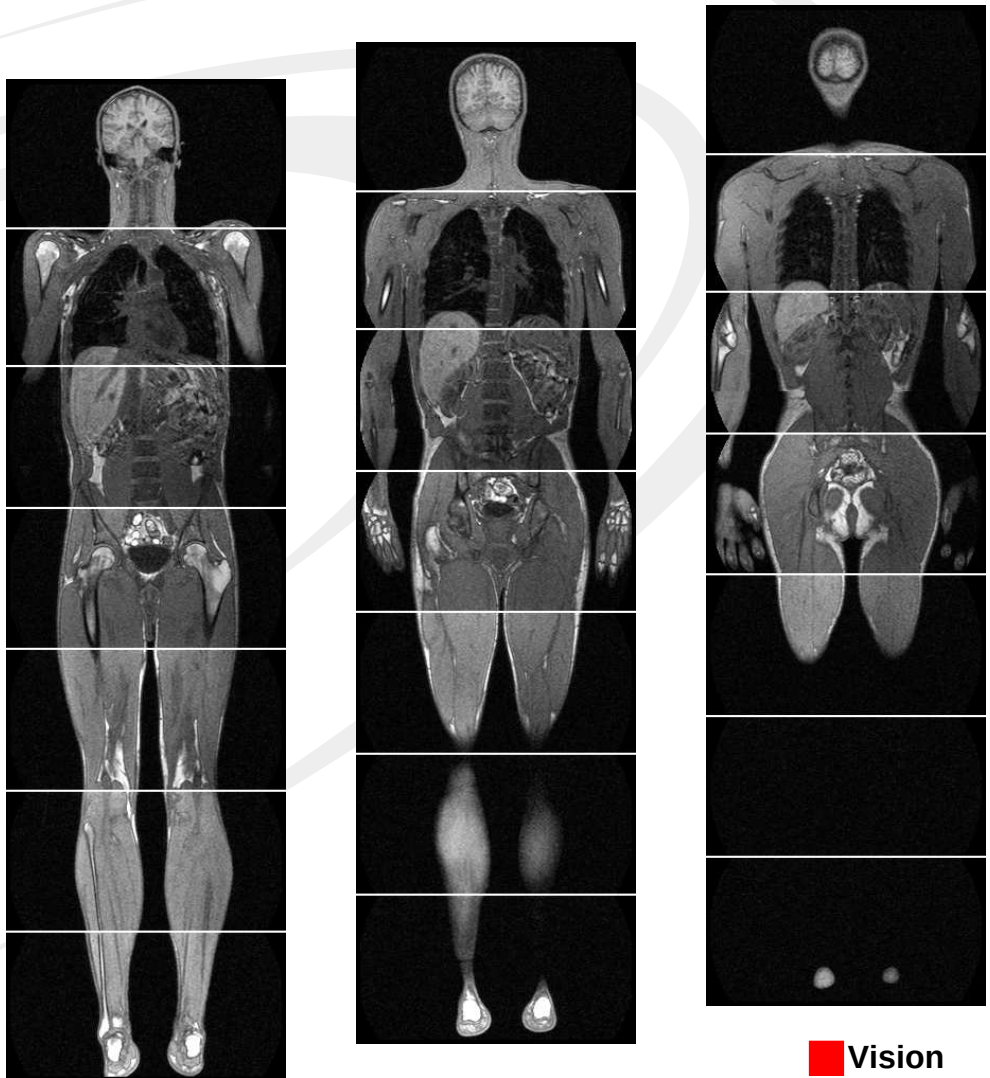
Types of Intensity Non-uniformity

1. Intra-Image:
2. Inter-Image:
3. Inter-Volume:
   - multi-section
   - time sequence



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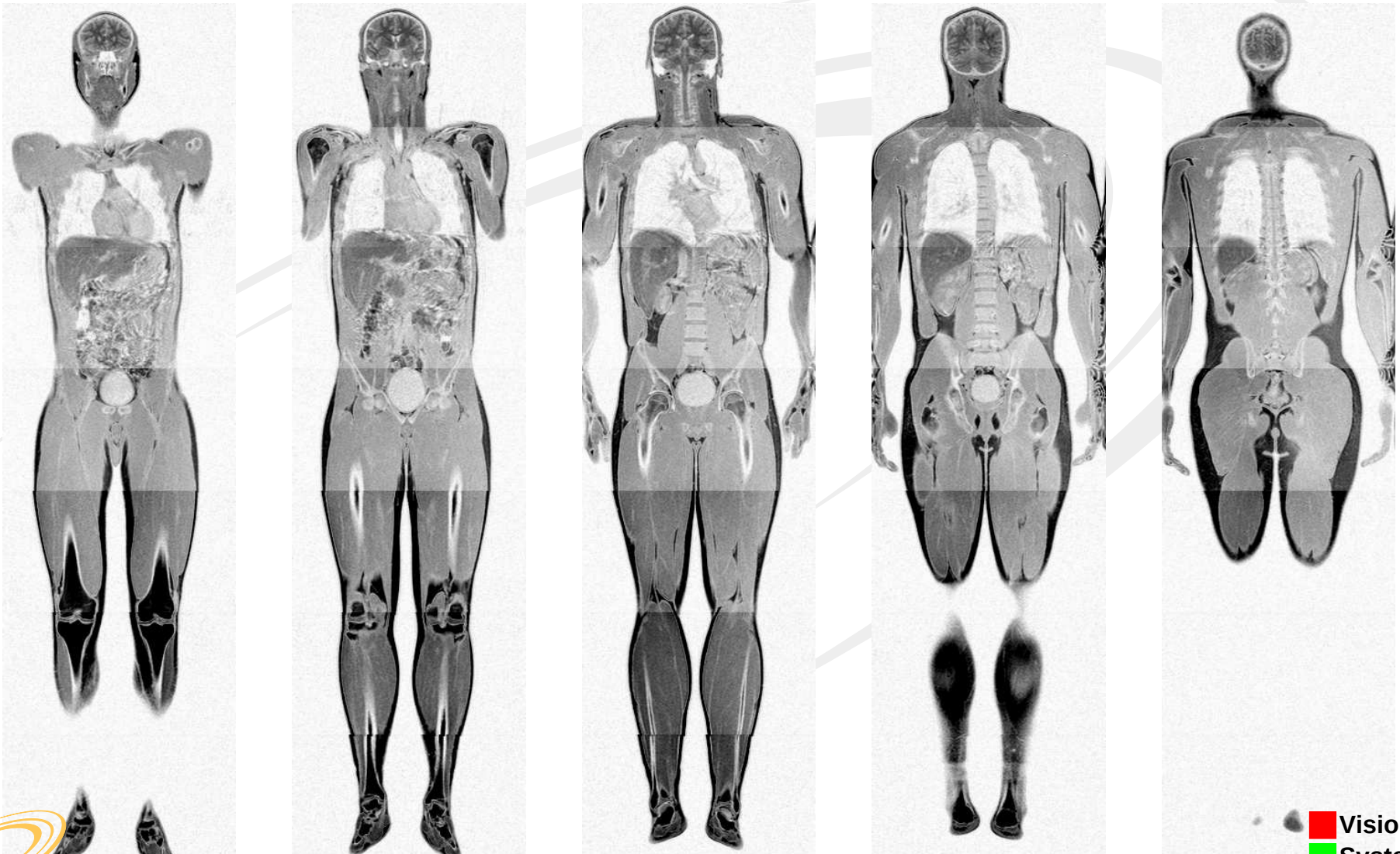
Multi-section Whole Body MRI



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Histogram Characteristics

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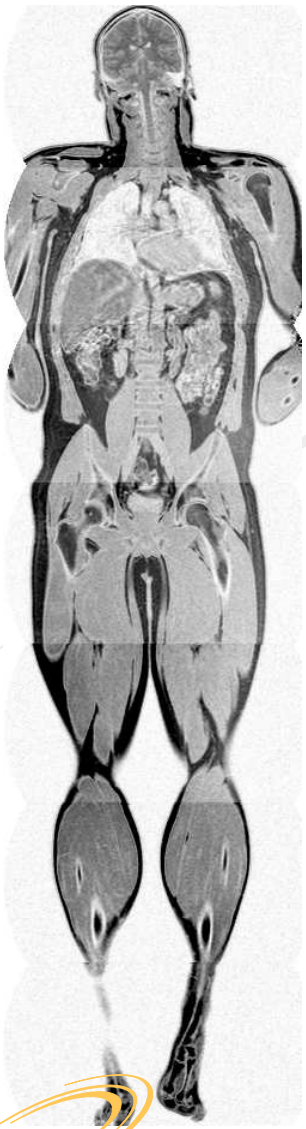
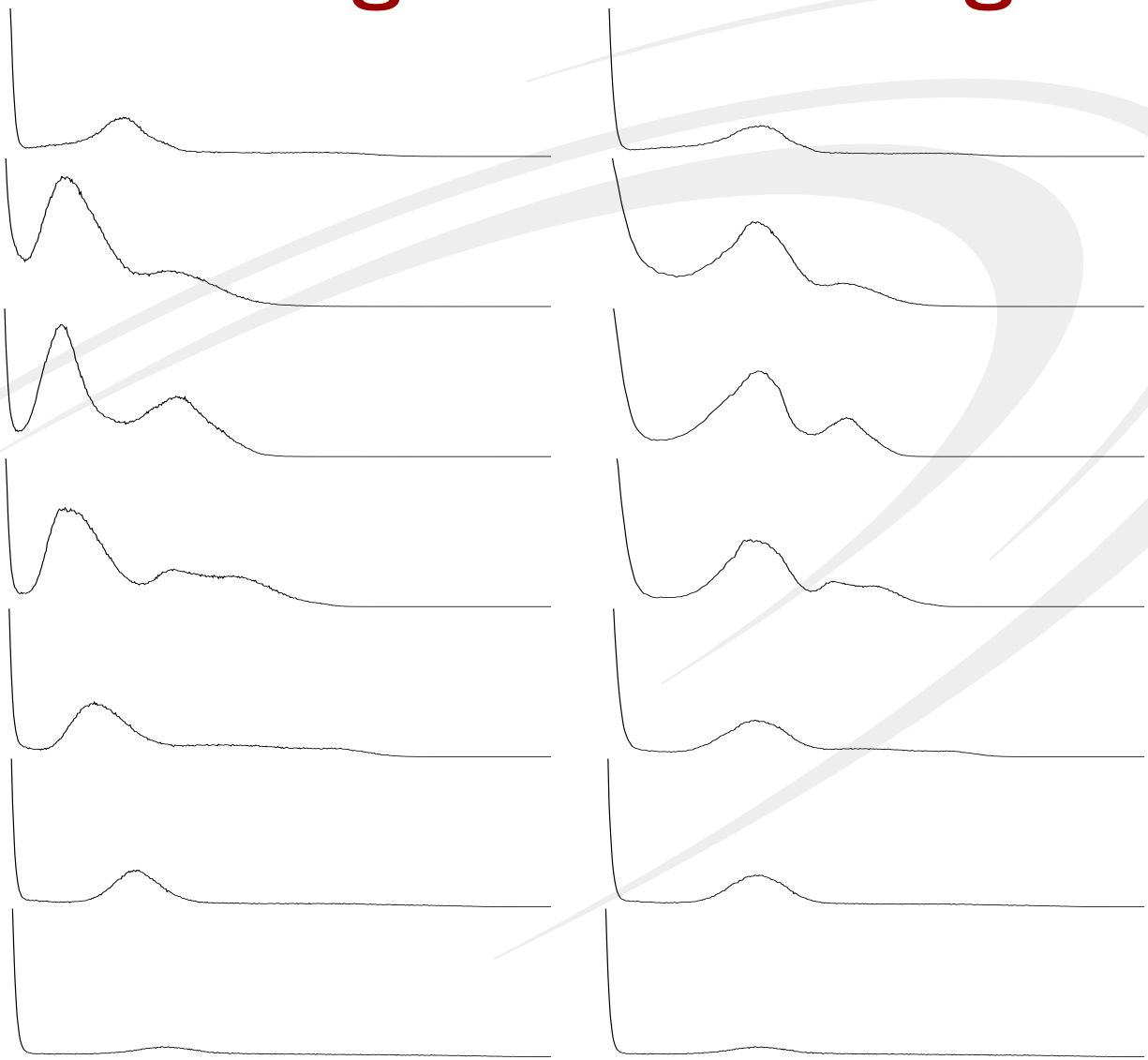
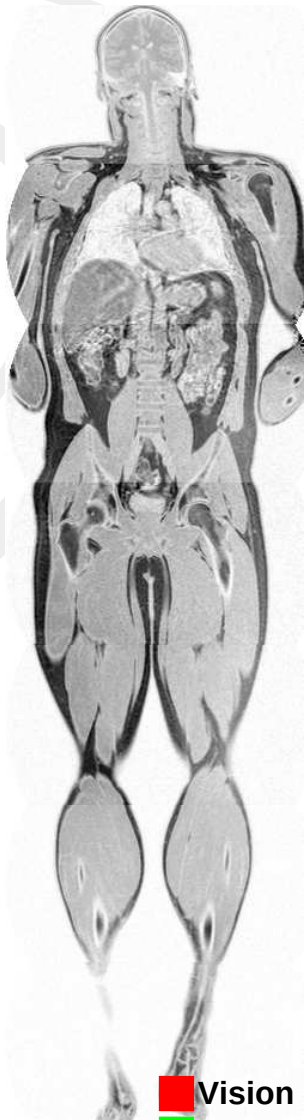
Histogram Matching







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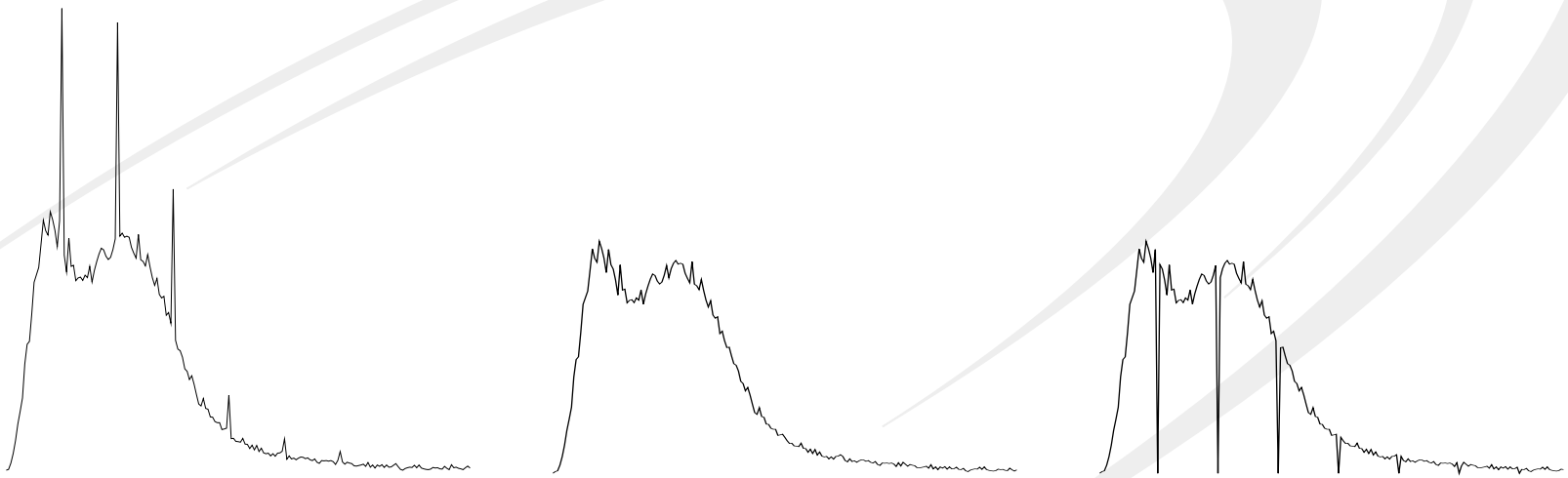
Intensity Rescaling

Rounding causes histogram spikes and voids



0.96 1.00 1.04

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Intensity Non-uniformity Correction

1. Fixed point detection

2. Histogram rescaling

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Intensity Non-uniformity Correction

1. Fixed point detection
   - background peak
2. Histogram rescaling

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Intensity Non-uniformity Correction

1. Fixed point detection
   - background peak
   - lean tissue peak

2. Histogram rescaling

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Intensity Non-uniformity Correction

1. Fixed point detection
   - background peak
   - lean tissue peak

2. Histogram rescaling
   - recalculate bins

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Intensity Non-uniformity Correction

1. Fixed point detection
   - background peak
   - lean tissue peak

2. Histogram rescaling
   - recalculate bins
   - redistribute voxels

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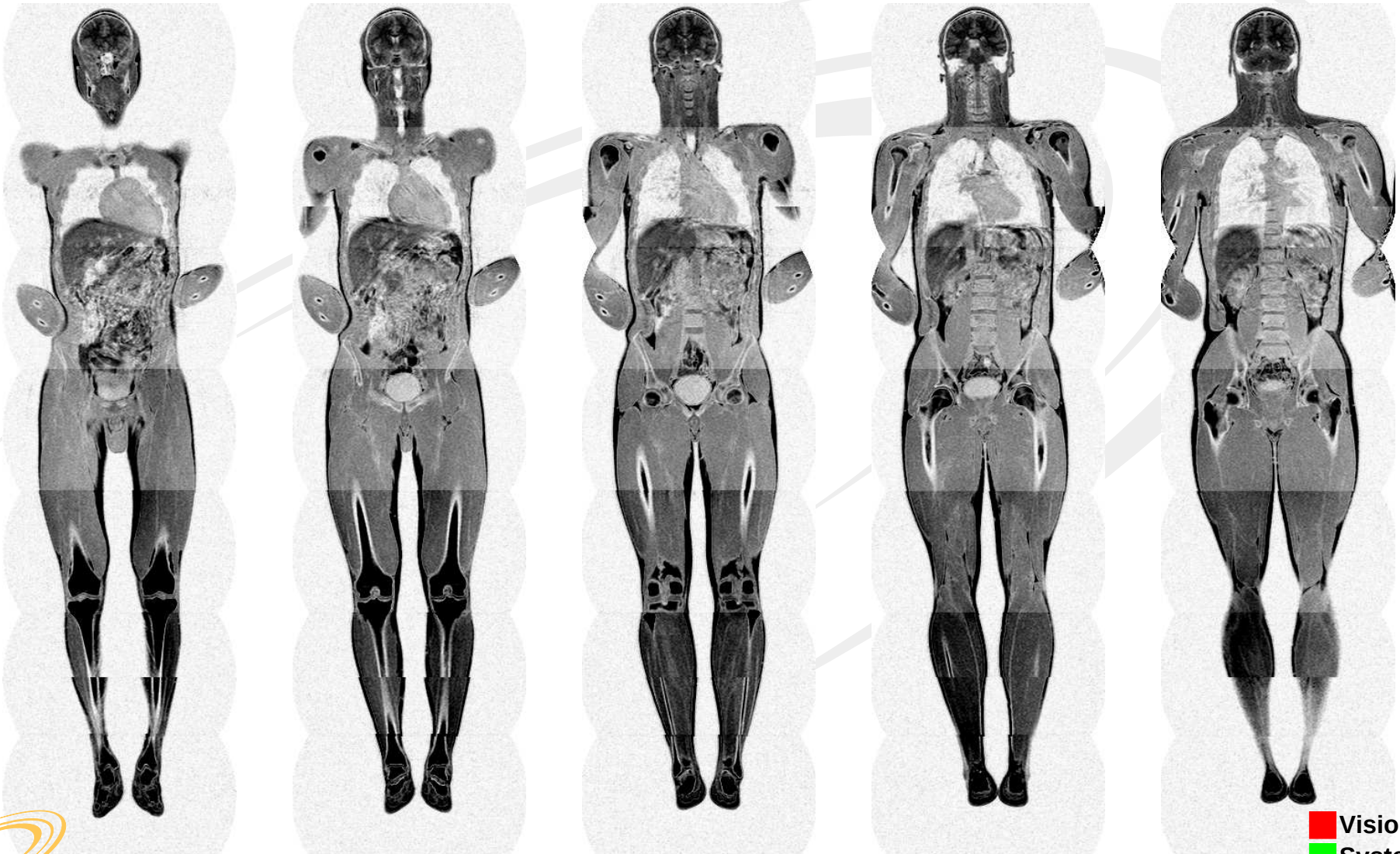
Whole Body MRI — Before Matching



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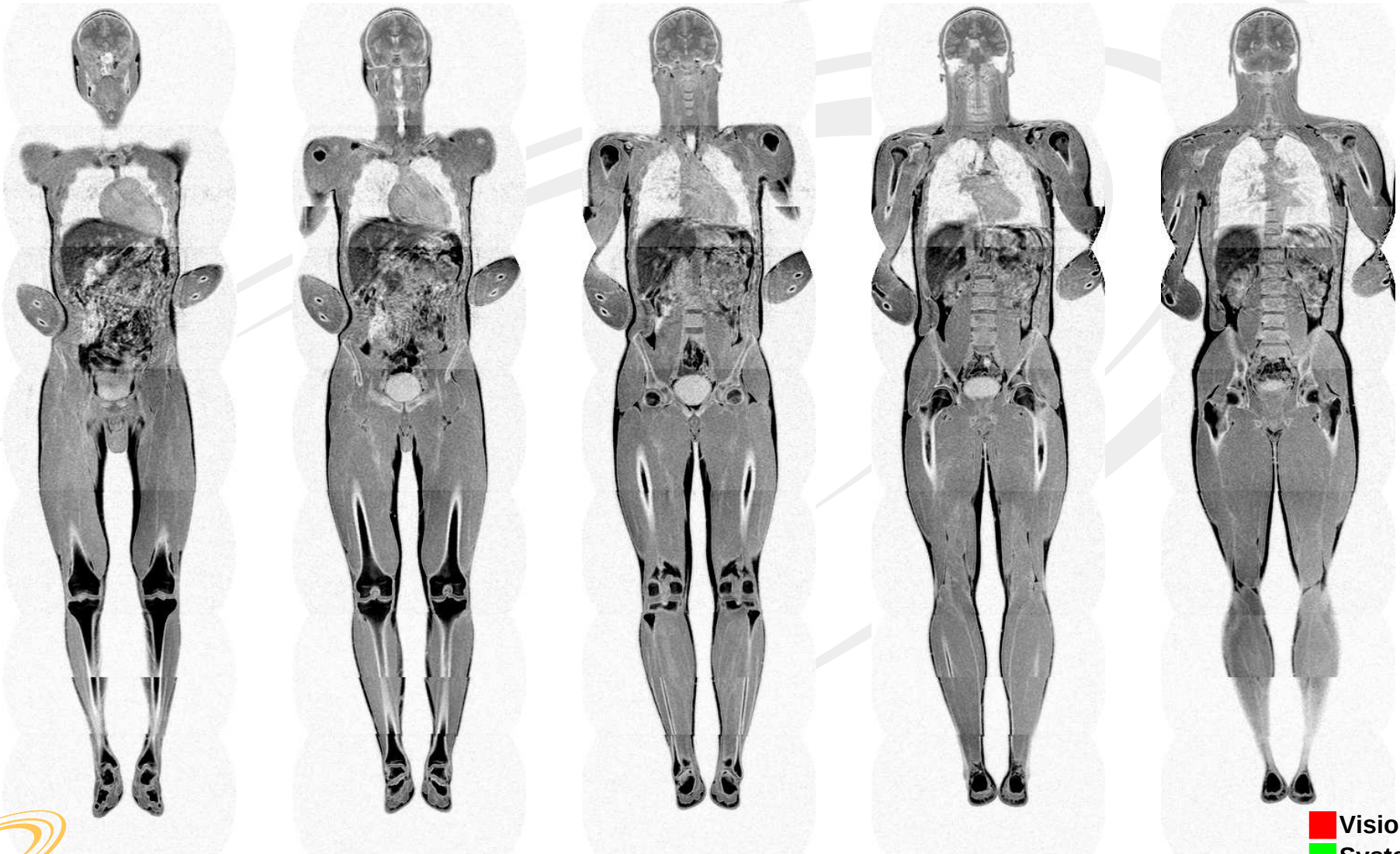
Whole Body MRI — After Matching



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