Parallel Image Reconstruction

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Highlights:

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- …
- …

TARGET AUDIENCE

OUTCOME/OBJECTIVES

PURPOSE

METHODS

RESULTS

DISCUSSION

CONCLUSION

REFERENCES

Points to be covered in this talk (to be fleshed out in subsequent full syllabus contribution):

- Parallel image reconstruction in a nutshell: a brief history of parallel imaging, and basic concepts of reconstruction
- Traditional taxonomy of parallel image reconstruction methods (e.g. k-space versus image domain, external calibration vs self-calibration)
- A better way to classify and understand parallel image reconstruction methods: extent in k-space
- Selected reconstruction methods in more depth
- Advanced topics and future directions
    - Limits of parallel image reconstruction
    - “Strong” reconstruction methods for voxel shaping
    - Combinations with compressed sensing

Note regarding conflict of interest: In my disclosure, I have noted patent royalties and license fees arising from an intellectual property portfolio for parallel imaging, assigned to Beth Israel Deaconess Medical Center and licensed by GE and Bruker. I will acknowledge this potential conflict in my presentation, and will take care to avoid any commercial bias. Indeed, the methods I will be discussing are used broadly by multiple vendors, and my own strongest research collaborations are in fact with Siemens rather than GE or Bruker. Given this situation, and the general maturity of parallel imaging techniques and technologies, I am confident that nothing in my presentation will affect the value of the intellectual property in question.