

# MIC-GPU: High-Performance Computing for Medical Imaging on Programmable Graphics Hardware (GPUs)



## References

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## References (1)



- C. Bai, G. Zeng, and G. Gullberg, "A slice-by-slice blurring model and kernel evaluation using the Klein-Nishina formula for 3D scatter compensation in parallel and converging beam SPECT," *Physics in Medicine and Biology*, vol. 45, pp. 1275-1307, 2000.
- N. Govindaraju, S. Larsen J. Gray and D. Manocha, "A memory model for scientific algorithms on graphics processors," *UNC Technical Report*, 2000.
- N. Govindaraju, B. Lloyd, W. Wang, Fast Database Operations using Graphics Processors, MC Lin, D Manocha - Proc. ACM Symposium on Management of Data (SIGMOD), 2004
- U. Kapasi, S. Rixner, W. Dally, B. Khailany, J. Ahn, P. Mattson, J. Owens, "Programmable Stream Processors," *IEEE Computer*, 36(8):54-62, 2003
- J. Krüeger and R. Westermann, "Acceleration Techniques for GPU-based Volume Rendering," *IEEE Visualization*, 38-45, 2003.
- K. Mueller and F. Xu, "Practical considerations for GPU-accelerated CT," *IEEE International Symposium on Biomedical Imaging*, 1184-1187, 2006.
- K. Mueller and F. Xu, "Real-Time 3D Computed Tomographic Reconstruction Using Commodity Graphics Hardware," *Physics in Medicine and Biology*, 52:3405-3419, 2007.

## References (2)



- T. Purcell, P. Sen, "Shadesmith: A Fragment Program Debugger", <http://graphics.stanford.edu/projects/shadesmith/>, 2003.
- T. J. Purcell, C. Donner, M. Cammarano, H. W. Jensen and P. Hanrahan, "Photon mapping on programmable graphics hardware". In *Proceedings of the ACM SIGGRAPH/EUROGRAPHICS Conference on Graphics Hardware* pp 41-50, 2003.
- C. Rezk-Salama, K. Engel, M. Bauer, G. Greiner, and T. Ertl, "Interactive Volume Rendering on Standard PC Graphics Hardware Using Multi-Textures and Multi-Stage Rasterization," In *Proc. SIGGRAPH/Eurographics Workshop on Graphics Hardware*, 109-118, 2000.
- T. Sumanaweera and D. Liu, "Medical image reconstruction with the FFT," *GPU Gems II*, Addison Wesley, 765-784, 2005.
- S. Venkatasubramanian, "The Graphics Card as a Streaming Computer," *The Computing Research Repository*, 2003.
- I. Viola, A. Karnitsar, and E. Groller. Hardware-based nonlinear filtering and segmentation using high-level shading languages. In *Proceedings of IEEE Visualization '03*, 2003.

## References (3)



- F. Xu and K. Mueller, "Accelerating popular tomographic reconstruction algorithms on commodity PC graphics hardware," *IEEE Transactions on Nuclear Science*, vol. 52, no. 3, pp. 654-663, 2005.
- F. Xu and K. Mueller, "A comparative study of popular interpolation and integration methods for use in computed tomography," *IEEE International Symposium on Biomedical Imaging*, 1252-1255, 2006.
- G. Zeng and G. Gullberg, "Unmatched projector/backprojector pairs in an iterative reconstruction algorithm," *IEEE Trans. Med. Imag*, vol. 19, no. 5, 548-555, 2000.