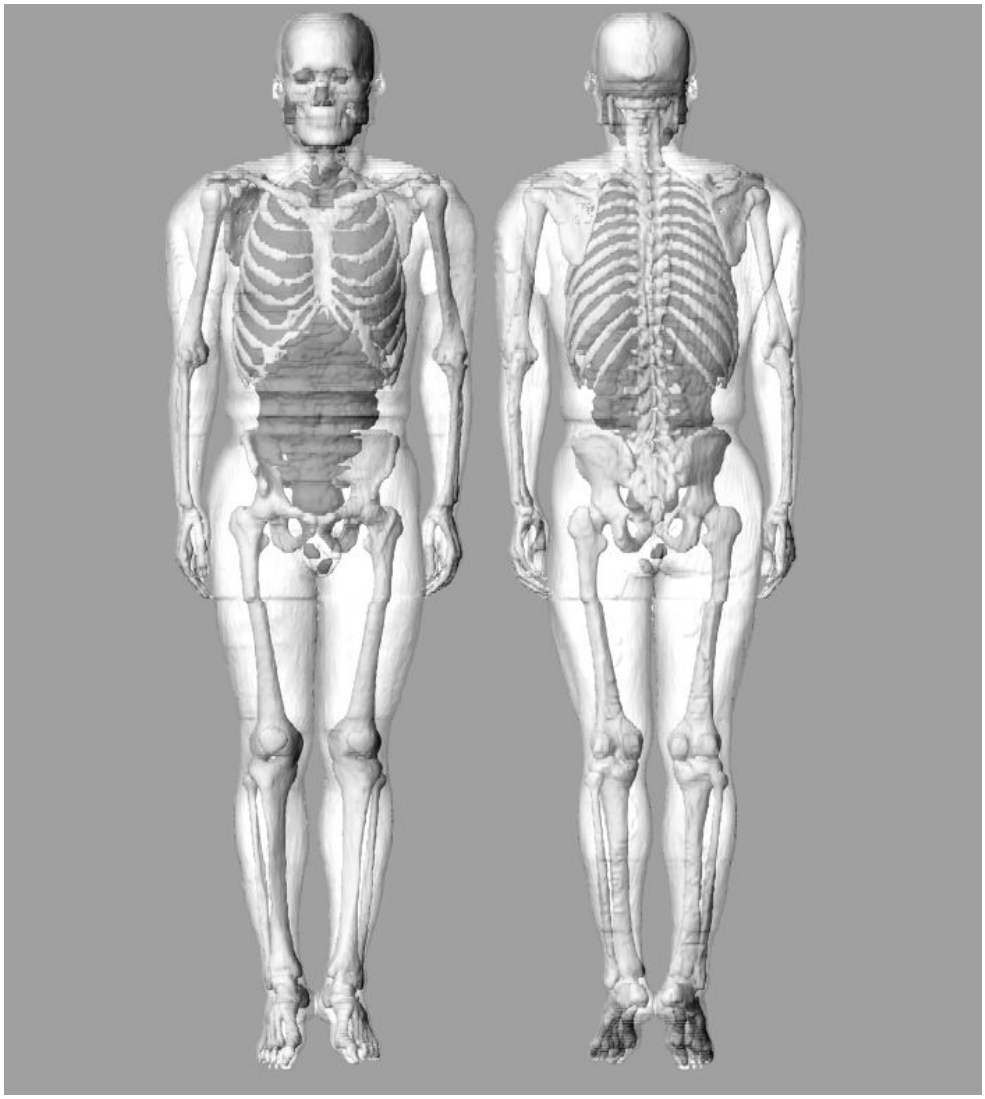
KTMAN-2 (Korean Typical MAN-2), Korean voxel phantom

Dear Colleagues:

Please find the attached zip file including phantom binary file (ktman2_binary.dat), specification file (ktman2_specification.txt), and this note. A total of 29 organs and tissues and 19 skeletal sites were segmented from CT images of Korean adult male having average height and weight via image manipulation techniques such as gray-level thresholding, region growing, and manual drawing, in which each of segmented image slice was subsequently reviewed by an experienced radiologist for anatomical accuracy. The resulting phantom consists of 300 × 150 × 344 voxels with a voxel resolution of 2 × 2 × 5 mm^3. The following is frontal and rear 3D views of the resulting phantom.



Please refer to “ktman2_specification.txt” file for detailed information about organ tag, organ name, volume, and recommended material and density. The conditions for using this dataset are that you:

- Refer to our original paper in you publications: *Lee C, Lee C, Park SH, and Lee JK, “Development of the two Korean adult tomographic computational phantoms for organ dosimetry,” Med Phys 33(2):380-390 (2006)*
- Do not modify or distribute any part of the phantom without permission of the authors
- Do not utilize any part of the phantom for commercial purpose

For you information, the followings are the publication related with this phantom.

- *Lee C, Lee C, and JK Lee, “On the need to revise the arm structure in stylized anthropomorphic phantoms in lateral photon irradiation geometry,” Phys Med Biol 51:n393-n402 (2006)*
- *Lee C, Park S, and JK Lee, “Specific absorbed fraction for Korean adult voxel phantom from internal photon source,” Radiat Prot Dosim 123:360-368 (2007)*
- *Lee C, Lee C, and JK Lee, “Applicability of dose conversion coefficients of ICRP74 to Asian adult males: Monte Carlo simulation study,” Applied Radiation and Isotopes 65:593-598 (2007)*
- *Lee C, Nagaoka T, and JK Lee, “Implementation of Japanese male and female tomographic phantoms to multi-particle Monte Carlo code for ionizing radiation dosimetry,” Journal of Nuclear Science and Technology 43:937-945 (2006)*
- *Lee C and JK Lee, “Computational anthropomorphic phantoms for radiation protection dosimetry: evolution and prospects,” Nuclear Engineering and Technology 38:239-250 (2006)*

Please feel free to contact Dr. Lee if you need any further information. Thanks.

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