

## human\_phantom Advanced Example

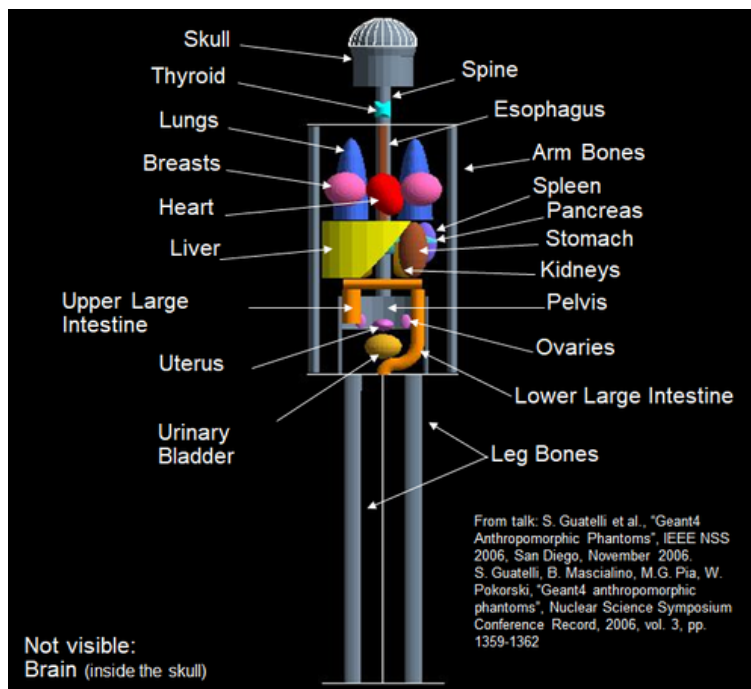
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## Introduction

The human\_phantom example models anthropomorphic phantoms for Geant4 simulations.

Two models are available: MIRD [1] (see Figure 1) and ORNL [2] (Male and Female for each approach).



MIRD Female model implemented in the example.

[1] W.S. Snyder, et al, "MIRD Pamphlet No. 5 Revised, Estimates of absorbed fractions for monoenergetic photon sources uniformly distributed in various organs of a heterogeneous phantom", J. Nucl. Med. Suppl., no. 3, pp. 5-52, 1969.

[2] M. Cristy and K. F. Eckerman, "Specific absorbed fractions of energy at various ages from internal photon sources", ORNL/TM-8381/VI, Apr. 1987.

Note: Currently the ORNL phantom is under review.

## Parameterized breast

As example of mix and match phantoms with analytical and voxelised geometries, it is possible to have a breast in the MIRD female model voxelised (see Figure 2). The model of this breast is based on [3]. Note: this functionality is shown only for demonstration purposes.

[3] D.R. Dance and R. A. Hunt, "Voxel breast phantom to represent breasts of different sizes and glandularities for use with a Monte Carlo simulation program", Report RMTPC 02/1005.

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