What does the package include?

Downloadable zip packages include single electron spectrum (*_ses.txt), summed electron spectrum (*_sums.txt), angular correlation, (*_cor.txt) and two-dimensional spectrum (*_2ds.txt). These files are calculated by Dr J. Kotila using Yale supercomputer. The files are organized as follows:

The first number in the files is just a running index, second one is the (single or summed electron) energy in MeV, and the third is the value for the quantity of interest for that energy. The package also includes a file named *_2ds.txt, which is the two-dimensional spectrum and lists running index for first electron, running index for second electron, energy for the first electron (in MeV), energy for the second electron (in MeV), and the value for spectrum with those energies.

Theoretical description of the calculation of double beta decay phase space factors and related single electron spectrum, summed electron spectrum and angular correlation can be found from our paper "Phase-space factors for double-β decay" published in Physical Review C (and can also be found at arXiv). Note that files are unnormalized and they can be normalized using experimentally measured half-lives or theoretically calculated ones as described in the paper.

When citing these results, please use

J. Kotila and F. Iachello, Physical Review C 85, 034316 (2012) and nucleartheory.yale.edu

(or **J. Kotila and F. Iachello, arXiv: 1209.5722 (2012) and nucleartheory.yale.edu**)