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# xpecgen: A program to calculate x-ray spectra generated in tungsten anodes

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**Software**

- Review
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## Summary

X-rays tubes are widely used nowadays in medical applications, specially in medical imaging and radiation dosimetry, as well in other areas like security scanning or food contaminant irradiation. `xpecgen` is a program designed as a research and educational tool for use in medical applications by non-programming experts, as well as providing and API for programmers. It may also be of interest in other areas of knowledge where x-ray tubes are used.

`xpecgen` is a python package to calculate x-ray spectra generated in tungsten anodes using the model of Hernández and Fernández (Hernández and Fernández (2016)). It includes a Graphical User Interface and allows calculation of half-value-layers, norms, and attenuation. It can also export the calculations in XLSX and CSV formats.

## References

Hernández, G, and F Fernández. 2016. "A Model of Tungsten Anode X-Ray Spectra." *Medical Physics* 43 (8). American Association of Physicists in Medicine: 4655–64.

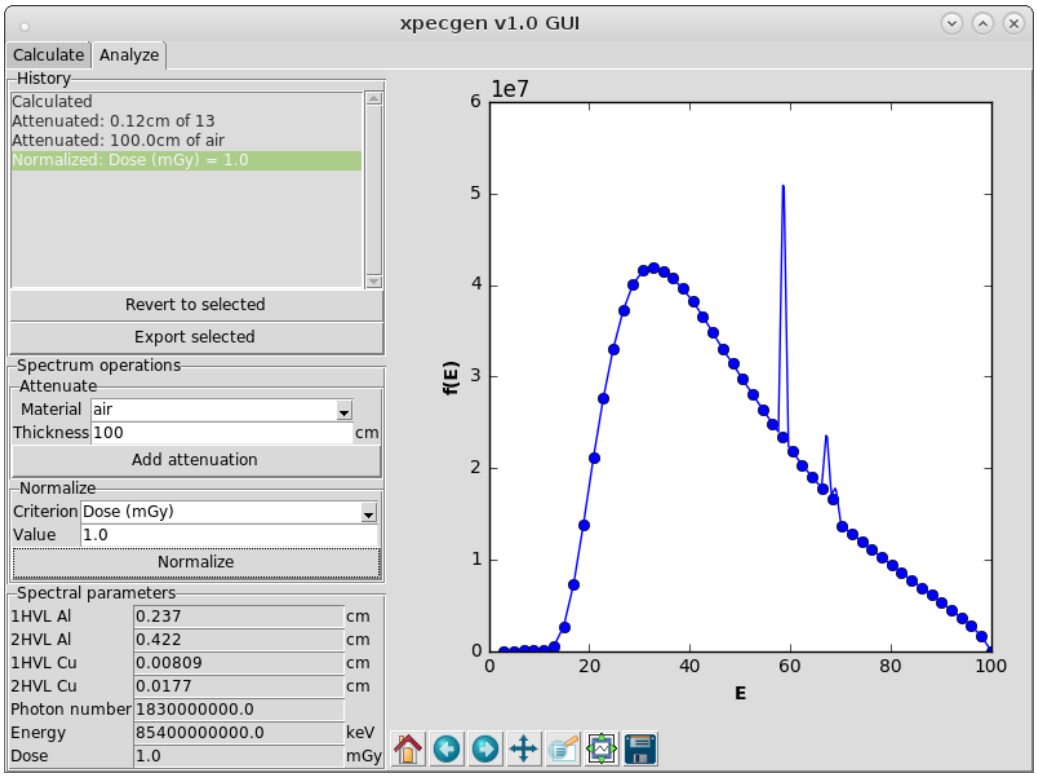


**Figure 1:** xpecgen GUI.