

Scott Williams

Education

Ph.D., Texas Christian University (2007)

M.Sc., University of Texas at Dallas (2003)

B.Sc., University of North Texas (2002)

Teaching Experience

Professor, Angelo State University (2019 – present)

Associate Professor, Angelo State University (2014 – 2019)

Assistant Professor, Angelo State University (2008 – 2014)

Visiting Assistant Professor, Texas Lutheran University (2007 – 2008)

Courses taught: Astronomy of the Solar System, Fundamentals of Astronomy, Introduction to Physical Science I, Introduction to Physical Science II, Physical Science Concepts I, Physical Science Concepts II, General Physics I, General Physics II, Fundamentals of Physics II, Statics, Modern Physics, Thermodynamics, Applied Nuclear Physics, Digital Electronics, and Advanced Physics Laboratory I, as well as corresponding laboratory courses.

Publications

Li, L., An, Z., Zhu, J., Lin, W., Williams, S., Bai, F., Wang, P., Fan, Y., Liu, G., 2023. Measurements of electron bremsstrahlung double-differential cross sections for solid targets down to low photon energies: No polarization contribution. *Phys. Rev. A* 107, L020802.

Nguyen, D. T., Seo, W., Tellez, J., Heidema, J., Williams, S., 2023. Bremsstrahlung produced by 5 keV electrons incident on Al₂O₃ and MgO samples at air pressures of 30, 50, and 100 Pa. *Microsc. Microanal.* 29, 470-476.

Huang, H., Stillman, T., Branham, L., Williams, S., 2022. The effects of photobiomodulation therapy on porcine islet insulin secretion. *Photobiomodul. Photomed. Laser Surg.* 40, 395-401.

Fuentes, F., Heidema, J., Ramasamy, S., Williams, S., 2022. ³¹P NMR analysis of thermal decomposition of tributylmethylphosphonium dimethylphosphate. *J. Undergrad. Chem. Res.* 21, 81-83.

Li, L., An, Z., Zhu, J., Lin, W., Williams, S., 2021. Absolute measurements of bremsstrahlung double differential cross sections of C and Al atoms by 5–25 keV electron impact. *Nucl. Instrum. Methods Phys. Res. Sect. B* 506, 15-22.

Adamson, P., Cannon, C., Williams, S., 2021. Bremsstrahlung produced by 5 keV electrons incident on BeO and NaCl. *Nucl. Instrum. Methods Phys. Res. Sect. B* 490, 43-47.

Adamson, P., Williams, S., 2019. Effects of electron-beam irradiation on graphene oxide. *J. Undergrad. Rep. Phys.* 28, 6-9.

Adamson, P., Williams, S., 2018. Effects of microwave irradiation on multiwalled carbon nanotubes of different diameters. *J. Nanophotonics* 12, 046014.

Czarnecki, S., Williams, S., 2017. Measurements of the effective atomic numbers of minerals using bremsstrahlung produced by low-energy electrons. *Nucl. Instrum. Methods Phys. Res. Sect. B* 413, 27-30.

Czarnecki, S., Short, A., Williams, S., 2017. Measurements of the effective atomic numbers of alloys using thick-target bremsstrahlung intensities. *Phys. Proc.* 90, 41-46.

Czarnecki, S., Short, A., Williams, S., 2016. Z-dependence of thick-target bremsstrahlung produced by monoenergetic low-energy electrons. *Nucl. Instrum. Methods Phys. Res. Sect. B* 378, 54-58.

Czarnecki, S., Gonzales, D., Williams, S., 2015. Comparison of the bremsstrahlung absolute probability densities produced by experiment and PENELOPE for low-energy (keV) electrons incident on solid silver. *X Ray Spectrom.* 45, 100-102.

Ferguson, S., Bhatnagar, P., Wright, I., Sestric, G., Williams, S., 2015. Effects of microwave absorption on long and short single-walled nanotubes at 10^{-6} torr. *Int. J. Nanosci.* 14, 1550025.

Ferguson, S., Johnson, J., Gonzales, D., Hobbs, C., Allen, C., Williams, S., 2015. Analysis of ZDDP content and thermal decomposition in motor oils using NAA and NMR. *Phys. Proc.* 66, 439-444.

Sestric, G., Ferguson, S., Wright, I., Williams, S., 2014. Angular distributions of X-rays emitted following L_3 ionization of Au atoms by electron impact. *Radiat. Phys. Chem.* 102, 40-43.

Cavness, B., McGara, N., Williams, S., 2013. Spectra of radiation emitted from open-ended and closed carbon nanotubes exposed to microwave fields. *Int. J. Nanosci.* 12, 1350028.

Ferguson, S., McGara, N., Cavness, B., Gonzales, D., Williams, S., 2013. Spectra of radiation emitted by single-walled and multi-walled carbon nanotubes during multiple microwave irradiation and cooling cycles. *Int. J. Nanosci. Nanotechnol.* 4, 71-79.

Gonzales, D., Williams, S., 2013. Angular distribution of bremsstrahlung produced by 10-keV and 20-keV electrons incident on a thick Au target. *AIP Conf. Proc.* 1525, 114-117.

Cavness, B., Williams, S., 2013. Analysis of Russian kopecks (1877–1933) using X-ray fluorescence. *AIP Conf. Proc.* 1525, 741-744.

Williams, S., 2013. Polarizational Bremsstrahlung: A Review, in: Jang, J. (Ed.), *New Developments in Photon and Materials Research*. Nova Sci. Pub., New York, pp. 47-59.

Cavness, B., Heimbecker, J., Velasquez, J., Williams, S., 2012. X-ray fluorescence as a method of monitoring metal catalyst content during the purification of carbon nanotubes. *Radiat. Phys. Chem.* 81, 131-134.

Gonzales, D., Requena, S., Williams, S., 2012. Au $L\alpha$ x-rays induced by photons from ^{241}Am : comparison of experimental results and the predictions of PENELOPE. *Appl. Radiat. Isot.* 70, 301-304.

Gonzales, D., Cavness, B., Williams, S., 2011. Angular distribution of thick-target bremsstrahlung produced by electrons with initial energies ranging from 10 to 20-keV incident on Ag. Phys. Rev. A 84, 052726.

Gonzales, D., Requena, S., Davis, S., Williams, S., 2011. Angular distribution of K-shell X-rays produced by 29 keV electrons incident on Ag. Nucl. Instrum. Methods Phys. Res. Sect. B 269, 1333-1335.

Requena, S., Gonzales, D., Williams, S., 2011. Angular dependence of bremsstrahlung produced by 17.5-keV electrons incident on thick Ag. Phys. Rev. A 83, 022712.

Requena, S., Williams, S., 2011. Study of the angular distribution of photon-induced Au-target L X-rays. Radiat. Phys. Chem. 80, 629-631.

Requena, S., Williams, S., Quarles, C. A., 2010. A comparison of the bremsstrahlung yields from 53 keV electrons on gold targets produced by PENELOPE and experiment. Nucl. Instrum. Methods Phys. Res. Sect. B 268, 3561-3563.

Williams, S., Quarles, C. A., 2008. Absolute bremsstrahlung yields at 135° from 53-keV electrons on gold film targets. Phys. Rev. A 78, 062704.

Williams, S., Hayton, K., Quarles, C. A., 2007. Target thickness dependence of 50 keV electron bremsstrahlung. Nucl. Instrum. Methods Phys. Res. Sect. B 261, 184-188.

Williams, S., Haygood, R., Quarles, C. A., 2006. Target thickness dependence of bremsstrahlung from solid films. Radiat. Phys. Chem. 75, 1707-1710.

Haygood, R., Williams, S., Quarles, C. A., 2006. Bremsstrahlung from gas targets: Study of background processes. Radiat. Phys. Chem. 75, 1688-1692.

Recognitions

2015 Robert S. Hyer Research Award (American Physical Society, Texas Section)

2013 Chancellor's Council Distinguished Research Award (Texas Tech University System)

2013 President's Award for Faculty Excellence in Research/Creative Endeavor (Angelo State University)

1991 Spelling Bee Winner (Elkins Elementary School, Fort Worth, Texas)

Affiliations

Member, American Physical Society