

## Muhammad Shumail

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### Publications

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#### PUBLICATIONS

- **Shielding Analysis of a Preclinical Bremsstrahlung X-ray FLASH Radiotherapy System within a Clinical Radiation Therapy Vault.** *Health physics*  
Rosenstrom, A., Santana-Leitner, M., Rokni, S., Shumail, M., Tantawi, S., Kwofie, J., Dewji, S., Loo, B. W.  
2023
- **Frontiers in the Application of RF Vacuum Electronics.** *IEEE transactions on electron devices*  
Armstrong, C. M., Snively, E. C., Shumail, M., Nantista, C., Li, Z., Tantawi, S., Loo, B. W., Temkin, R. J., Griffin, R. G., Feng, J., Dionisio, R., Mentgen, F., Ayllon, et al  
2023; 70 (6): 2643-2655
- **Frontiers in the Application of RF Vacuum Electronics** *IEEE TRANSACTIONS ON ELECTRON DEVICES*  
Armstrong, C. M., Snively, E. C., Shumail, M., Nantista, C., Li, Z., Tantawi, S., Loo, B. W., Temkin, R. J., Griffin, R. G., Feng, J., Dionisio, R., Mentgen, F., Ayllon, et al  
2023
- **Monte Carlo simulation of shielding designs for a cabinet form factor preclinical MV-energy photon FLASH radiotherapy system.** *Medical physics*  
Rosenstrom, A., Leitner, M. S., Rokni, S. H., Shumail, M., Tantawi, S., Dewji, S., Jr, B. W.  
2023
- **Bayesian optimisation to design a novel X-ray shaping device.** *Medical physics*  
Whelan, B., Trovati, S., Wang, J., Fahrig, R., Maxim, P. G., Hanuka, A., Shumail, M., Tantawi, S., Merrick, J., Perl, J., Keall, P., Jr, B. W.  
2022
- **Initial Steps Towards a Clinical FLASH Radiotherapy System: Pediatric Whole Brain Irradiation with 40 MeV Electrons at FLASH Dose Rates.** *Radiation research*  
Breitkreutz, D. Y., Shumail, M. n., Bush, K. K., Tantawi, S. G., Maxim, P. G., Loo, B. W.  
2020
- **Theory of electromagnetic insertion devices and the corresponding synchrotron radiation** *PHYSICAL REVIEW ACCELERATORS AND BEAMS*  
Shumail, M., Tantawi, S. G.  
2016; 19 (7)
- **Experimental Demonstration of a Tunable Microwave Undulator** *PHYSICAL REVIEW LETTERS*  
Tantawi, S., Shumail, M., Neilson, J., Bowden, G., Chang, C., Hemsing, E., Dunning, M.  
2014; 112 (16)
- **Electron dynamics and transverse-kick elimination in a high-field short-period helical microwave undulator** *APPLIED PHYSICS LETTERS*  
Chang, C., Shumail, M., Tantawi, S., Neilson, J., Pellegrini, C.  
2012; 101 (16)