DNP13-2013-020034

Abstract for an Invited Paper
for the DNP13 Meeting of
the American Physical Society

Taming the SQUID: How a nuclear physics education (mostly) helped my career in applied physics

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My degree is in experimental nuclear physics, specifically studying the interaction of pions with nuclei. But after graduation I accepted a post-doctoral research position with a team based on applications of the Superconducting Quantum Interference Device (SQUID) to the study of the human brain. Despite knowing nothing about the brain or SQUIDs to start with, I have gone on to enjoy a career in applications of the SQUID and other sensors to the detection of weak magnetic fields in a variety of problems from brain studies (magnetoencephalography) to ultra-low field nuclear magnetic resonance for detection of explosives and illicit material. In this talk I will present some background on SQUIDs and their application to the detection of ultra-weak magnetic fields of biological and non-biological origin. I will also provide a little insight into what it has been like to use a nuclear physics background to pursue other types of science.