**Current and Pending Support: Andrew Brandt**

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| **Sponsor:** DOE **Award Number**: DOE DE-SC0011686 |
| **Title of the Funded Research Project**: High Energy Physics Base Funding |
| **Total Award Amount for the Entire Award Period (including indirect costs)**: $890,000 |
| **Award Period**:05/01/16 - 04/31/17 |
| **Number of Person-months per year to be devoted to the project by the PI**: 1.0 |
| **Abstract:** This proposal requests support for a program of research in experimental high energy physics at The University of Texas at Arlington. It includes studies of the recently discovered Higgs boson, searches for new particles, detector improvement, and large scale computing for the ATLAS Experiment at the European Center for Nuclear Research (CERN) in Geneva, Switzerland, and an initiative for a future experiment, the Silicon Detector Concept (SiD), at the proposed International Linear Collider. Together, the ATLAS Experiment and SiD, can provide a deep understanding of the nature of the combination of two of nature’s fundamental forces: electromagnetism and the weak nuclear force, in addition to allowing discovery of associated new particles suggested by theory. In a new direction for the group, support is also requested for participation in the future Long Baseline Neutrino Experiment (LBNE) exploring the masses of the neutrinos that are involved in the weak nuclear interactions, and the ORKA Experiment that will search for signs of new physics in the rare decays of the K-meson, an elementary particle only produced in high energy collisions. Finally, we propose to carry out theoretical studies of the dark matter that exists in large quantities around and between galaxies, in terms of its interactions with astrophysical objects, and its possible creation in low energy high beam intensity experiments. |

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| **Support**:  Awarded  Pending |
| **Sponsor:** DOE  **Award/Identifying Number:** 215078 |
| **Proposal Title**: Development of a Long Life Photomultiplier Tube for High Flux Applications (PI) |
| **Total Award Amount for the Entire Award Period (including indirect costs)**: $,000 |
| **Award Period**: **0**4/01/2016- 3/31/2017 |
| **Number of Person-months per year to be devoted to the project**: 1.0 |
| **Abstract:** This project seeks is concerned with the development of long-life microchannel plate (MCP) photomultiplier tubes (PMTs), capable of high rate operation. Its goals are the optimization of lifetime testing methods including the efficacy of multiple lifetime measurements per device, expedited lifetime measurements, and after-pulsing studies that seek to correlate lifetime with the amount of specific heavy ions. |