

Chris Stoughton

Present Title: Scientist II Original Date of Appointment at the lab: 1986
PhD: 1986 (Columbia University, Physics)

Leadership or Management Positions:

- Construction Manager (Fermilab E990 – Holometer);
- Mentor, Fermilab/U Chicago Quarknet group

Positions Held:

- Fermilab Colloquium Committee;
- NASA reviewer

Current Experiments:

- Fermilab E990: Holometer;
- MKIDs R&D in collaboration with UCSB;
- nanoCam development;
- Plan to transition to SPT

Current Roles:

- Holometer: Oversee design, construction, and operations for the E990 experiment -- civil construction, vacuum system, optics, electronics, data acquisition, computing, and analysis. Collaborated on theoretical underpinnings for the experiment. Plan for reconfiguration.
- MKIDs: Operations and analysis for ARCONS camera deployed at Palomar Observatory. R&D on detectors installed at Fermilab; analysis of cosmological applications for this new technology.
- nanoCam development: designed, constructed, deployed, and operated a fast, single-photon detector at the Hale 200". Developing science case and funding scenarios for future work

Recent accomplishments:

- Holometer: successful operation that exceeds design specification; analysis and publication of results; reconfiguration plans approved by collaboration
- MKIDs: publication for observing runs
- nanoCam: successful prototype run confirmed detector performance

Future plans:

- Holometer: finish operations. (Unless we detect exotic rotational effects!)
- MKIDs & nanoCam: continue R&D work and pursue support
- SPT: 3g detector characterization and analysis; stage 4 planning, construction, and operation

Publications:

Search for Optical Pulsations in PSR J0337+1715, M. J. Strader et al. MNRAS accepted (2016)

Search for Space-Time Correlations from the Planck Scale with the Fermilab Holometer, A. Chou et al., PRL (2016)

The ARCONS Pipeline: Data Reduction for MKID Arrays, J. C. van Ekyen et al, ApJS (2016)

Direct Detection of SDSS J0926+3624 Orbital Expansion with ARCONS, P. Szypryt et al, MNRAS (2015)