

## Stefan M. Spanier

- 2013 – present, Full Professor at the University of Tennessee
- 2008 – 2013, Associate Professor (tenured) at the University of Tennessee;
- 2002 - 2008, Assistant Professor at the University of Tennessee;
- 1998 - 2002, Research Associate, Stanford Linear Accelerator Center (SLAC);
- 1994 - 1998, Postdoctoral Researcher, University of Zurich and CERN, Switzerland;
- 1994 Ph.D. Physics, Johannes Gutenberg University, Mainz, Germany;

**2006 – present: Search for Physics beyond the Standard Model with the CMS detector at the Large Hadron Collider (LHC) of CERN, Geneva, Switzerland:** Preparation of Higgs search with b-tag and measurement of b-hadron production cross section. Search of CP violation patterns in  $B_s$ -meson decays. Lead measurement of underlying production single%double parton scattering. Lead measurement of  $J/\psi$  pair production and search for new states in this 4muon final state. Commissioning, systematic studies of the pixel detector.

**2009 – present: Diamond Pixel Detectors:** establish detectors for the pixel luminosity telescope (PLT) of CMS at LHC and for upgrade of CMS silicon pixel detector with diamond based detector and beam tests and irradiation studies. Organizer and co-organizer of beam time. **2009-present: Studies of Diamond Pixel Detectors for Pixel Upgrade Detectors:** In collaboration with Rutgers, Fermilab Universities, UT nuclear engineering, space institute study poly- and single-crystalline diamond pixel detectors in laboratory at UT and beam tests at CERN. Organize neutron irradiations tests at ORNL.

**2006-present: Beam Radiation Monitoring:** co-author of beam radiation requirements and specifications; workshop organizer: establish beam radiation monitoring and protection for the silicon pixel detector and other CMS subsystems. US-CMS L2 operations manager.

**2002-2010 Search for Physics beyond the Standard Model in B-Meson decays with BaBar at the Stanford Linear Accelerator Center (SLAC), California, USA:** CP-violation studies of so called penguin  $B_d$ -meson decay modes, that have negligible theoretical uncertainties, in search for deviations from the Standard Model predictions . The first observation and detailed CP violation studies of the decay  $B \rightarrow \phi K$  considered as golden channel for this search; likelihood analysis including S-wave estimation.

**1999-2002: Design and Operation of the Detector for Internally Reflected Cherenkov Light:** consulting for future experiments such as GLUEX at JLAB.

**1996-1999: Design of the Silicon Pixel Detector for the CMS Detector at LHC:** organize and conduct tests of different silicon pixel detector geometries under various irradiation and magnetic field conditions;

**1995-present: Particle Data Group:** review of meson spectroscopy measurements and author of note on scalar mesons [pdg.lbl.gov];

**1994-1996: Search for Exotic Meson States with the Crystal Barrel Experiment at the Low Energy Anti-proton Ring of CERN, Geneva:** Discover and establish of scalar meson state  $f_0(1500)$  interpreted as glueball; observation of scalar states below 2 GeV; observation of hybrid state candidates; measurements to strangeness content in the proton; Bose-Einstein correlations in low energy proton-anti-proton annihilations. Responsible for PWC; systematic studies of central wire chamber. Organize data runs at higher initial anti-proton momentum.