

Photonic Band Gap Accelerating Structures Progress Report

1Q FY19

In the first quarter of FY19 the PI (Evgenya Simakov) was busy editing the proceedings for the 2018th Advanced Accelerator Concepts workshop. Sixty-seven papers have been received, processed, and submitted for publication to IEEE. The conference proceedings will be published in February 2019.

The PI also worked with SLAC Linear Accelerator Center on putting together the field work proposal to continue PBG accelerator work at LANL for the next four years. We have proposed to design and test a PBG accelerator cell with the higher order mode absorbers.

The postdoc (Janardan Upadhyay) is currently transitioning to LANSCE operations on track to become an operational beam physicist. He is learning the beam physics for proton accelerators. As a part of finalizing his work for the PBG accelerator project, the postdoc is working on the journal paper on demonstrating wakefield acceleration in a PBG structure. The first draft of the paper is now complete, and the team works on finalizing the write-up. The PI will be actively searching for a new postdoc, once the continuation of this project is approved by HEP.

The high gradient testing of the PBG cell with elliptical rods at SLAC is awaiting the availability of the testing facility at SLAC.