Proposal Review 1 : 1535595

Agency Name:	National Science Foundation
Agency Tracking Number:	**1535595**
Organization:	
NSF Program:	Accelerator Science
PI/PD:	Rubin, David
Application Title:	Electron Cloud Trapping in High Energy Accelerators
Rating:	Good

Review

In the context of the five review elements, please evaluate the strengths and weaknesses of the proposal with respect to intellectual merit.

The proposed project examines electron cloud under a variety of conditions. This topic has been studied by many other researchers theoretically and experimentally. However, understand incomplete, and the proposed work has the potential to advance understanding under variation of quadrupole field strength and gradient, angular wall flux, and to measure the transient ch effects.

The team is well-qualified, although it is disappointing to see no graduate students or early career researchers on the project. The plan is well defined, and adequate resources appear to b available, although again a reduction of the number of professional researchers and addition of graduate students would accomplish the same goals with fewer resources. Leveraging the funded CESRTA is a unique strength.

In the context of the five review elements, please evaluate the strengths and weaknesses of the proposal with respect to broader impacts.

Improved understanding of e-cloud and its mitigation can have important implications for a wide range of accelerators. The diagnostics developed can also have benefits to other areas su plasma physics an vacuum electronics.

One key metric of broader impacts is absent despite a prime opportunity: the training of early career accelerator physcis and engineering researchers.

Please evaluate the strengths and weaknesses of the proposal with respect to any additional solicitation-specific review criteria, if applicable

Summary Statement

Overall, a solid proposal by a highly productive PI and team with a strong track record. The topic is timely, but the team has no early career researchers.