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### **SGSLR Range Control Electronics Design and Implementation**

Here we discuss the SGSLR range control electronics (RCE). SGSLR will be a high repetition rate, monostatic system, with a high data volume requirement. The purpose of the RCE is to provide temporal data filtering through the generation of range windows, minimize signal collisions between transmit and receive paths, protect the receiver during unavoidable collisions, and report relevant data back to the analysis software. Timing and inter-subsystem dataflow requirements/rationales are presented. The theory behind the design and the benefits and improvements over the heritage system are discussed. We also touch on the design implementation; advances in hardware technology have allowed us to go to an essentially all commercial-off-the-shelf design.