

C05

## **On the design and performance of a 2T permanent magnet wiggler for the Stanford Synchrotron Radiation Laboratory**

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The Beamline 9 Wiggler was designed to produce a 16 milliradian fan of high energy x-rays into 3 experimental stations. The device had a 26-cm period and contained 7.5 full strength periods. The minimum air gap was 2.1 cm. At minimum gap the peak field was specified to be  $\geq 1.9$  Tesla and the half period integrated field strength was specified to be greater than or equal to 16.646 T-cm.

A combination of analytical, PANDIRA, and scale models were used to develop a novel "compact pole" magnetic design. This design enabled us to achieve 2.04 T peak field while maintaining a minimum of 17.816 T-cm half period integrated field strength. The magnetic performance of the device was confirmed through the use of an IGC designed Hall Probe scanning system and long and short coil measurements.