# A 200 GHz Near Field Measurement System

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We have designed a near field measurement system operating at 200 GHz which has a dynamic range more than 60 dB. The system has a short term (over a period of a second) and long term phase variation (over a period of 15 to 20 minutes) less than 0.5 degree and 2 degree respectively. By turning on the averaging function of the network analyzer, each measurement point was averaged by an average number of 128, and then the short term phase variation decreases to less than 0.2 degree. The phase of the system did not vary more than 2 degrees during the measurement, which took approximately 4 hours. The contours of the near field obtained shows that the field is highly circular as expected from the theoretical predication. In our talk, we will give the details of the design of the near field measurement system and the method of data corrections. We will also demonstrate that the system can distinguish the quality of the corrugated feed horns.