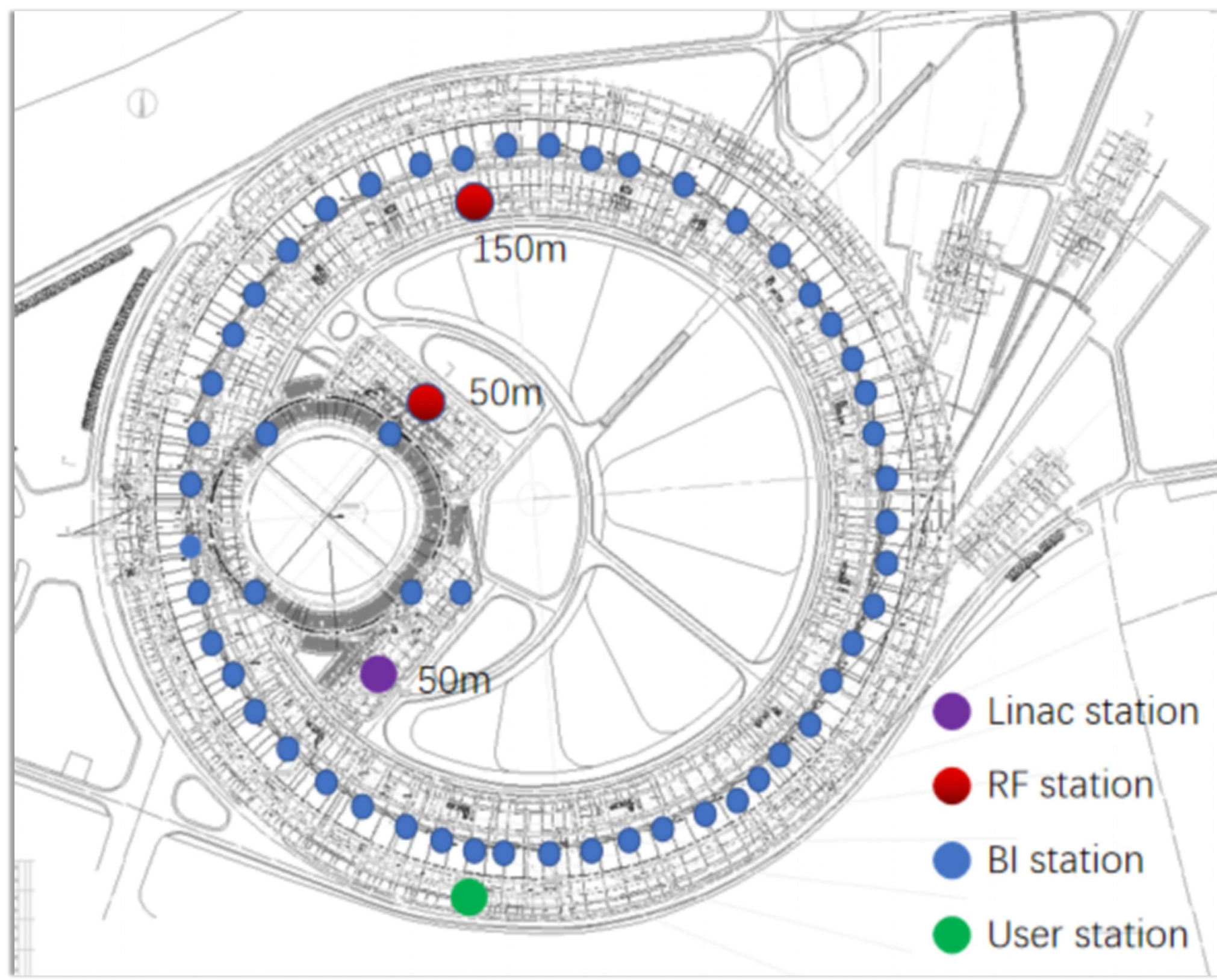


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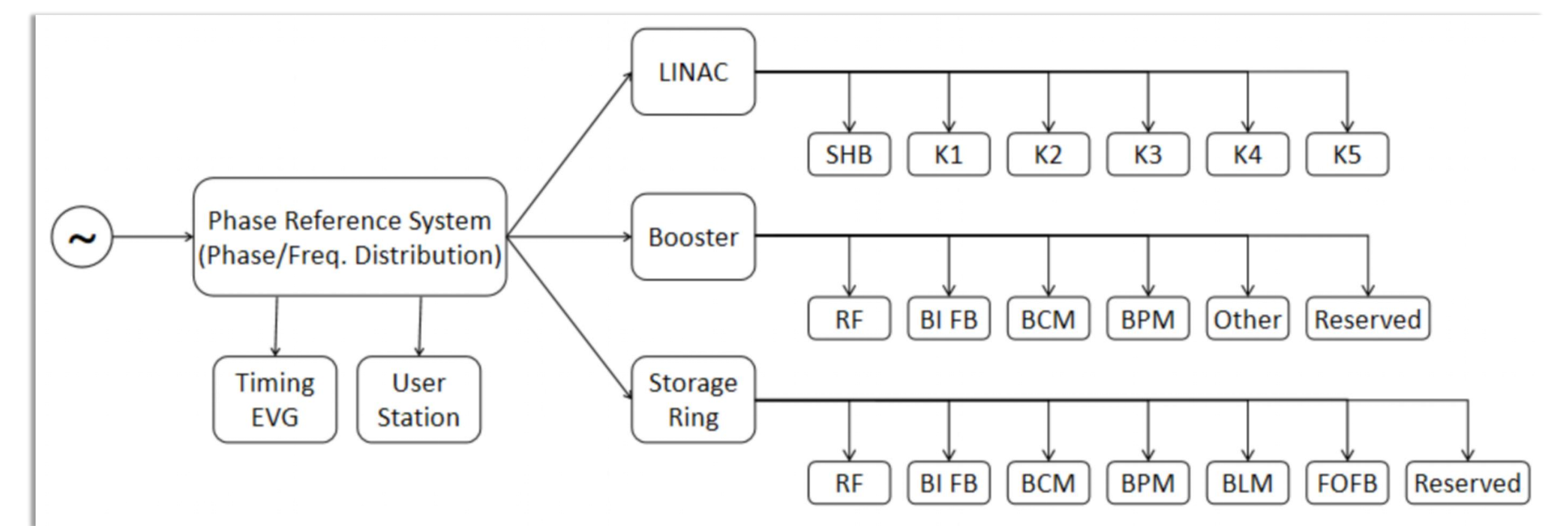
More measurements -> Email: maxp@ihep.ac.cn.

HEPS



Background:

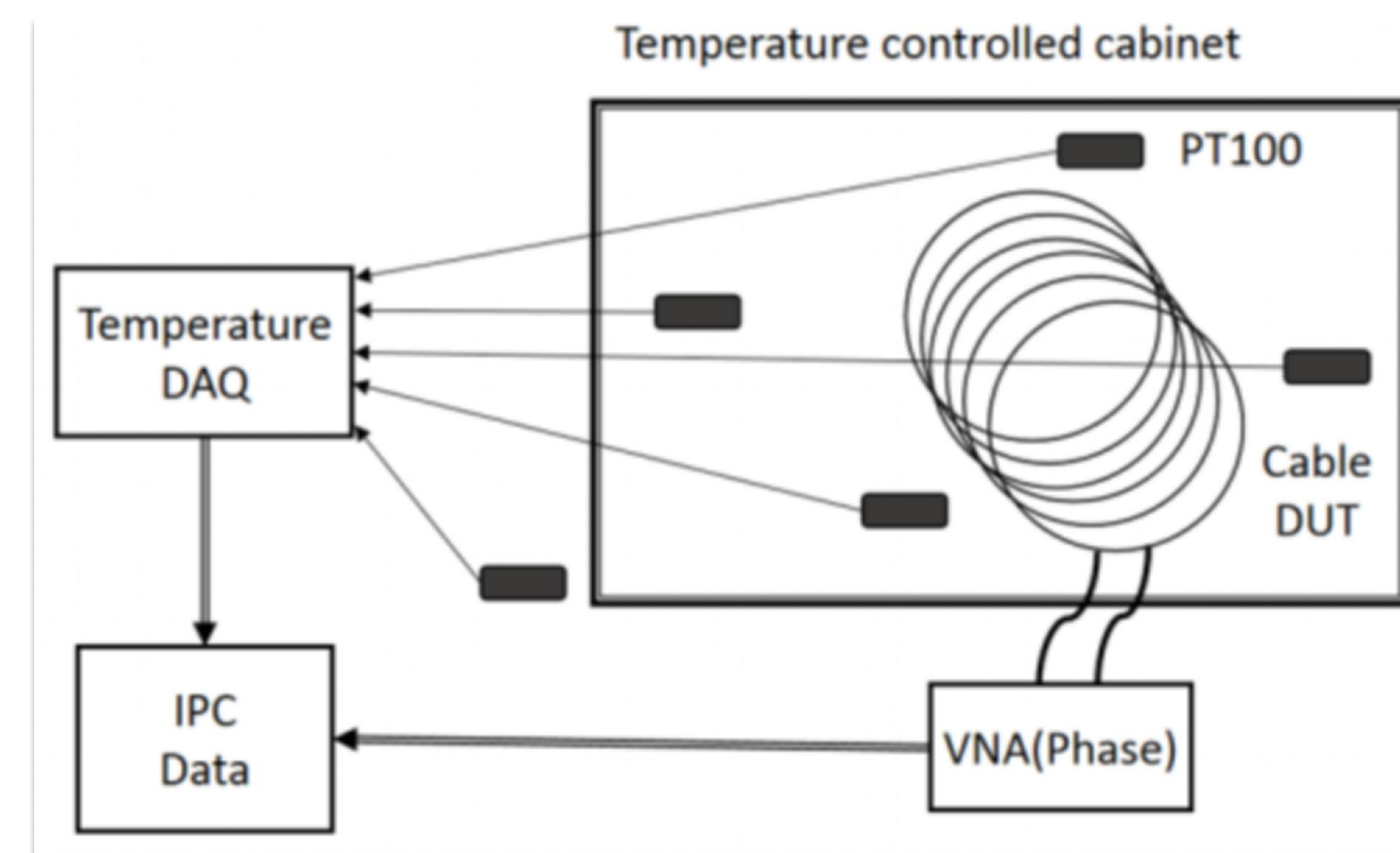
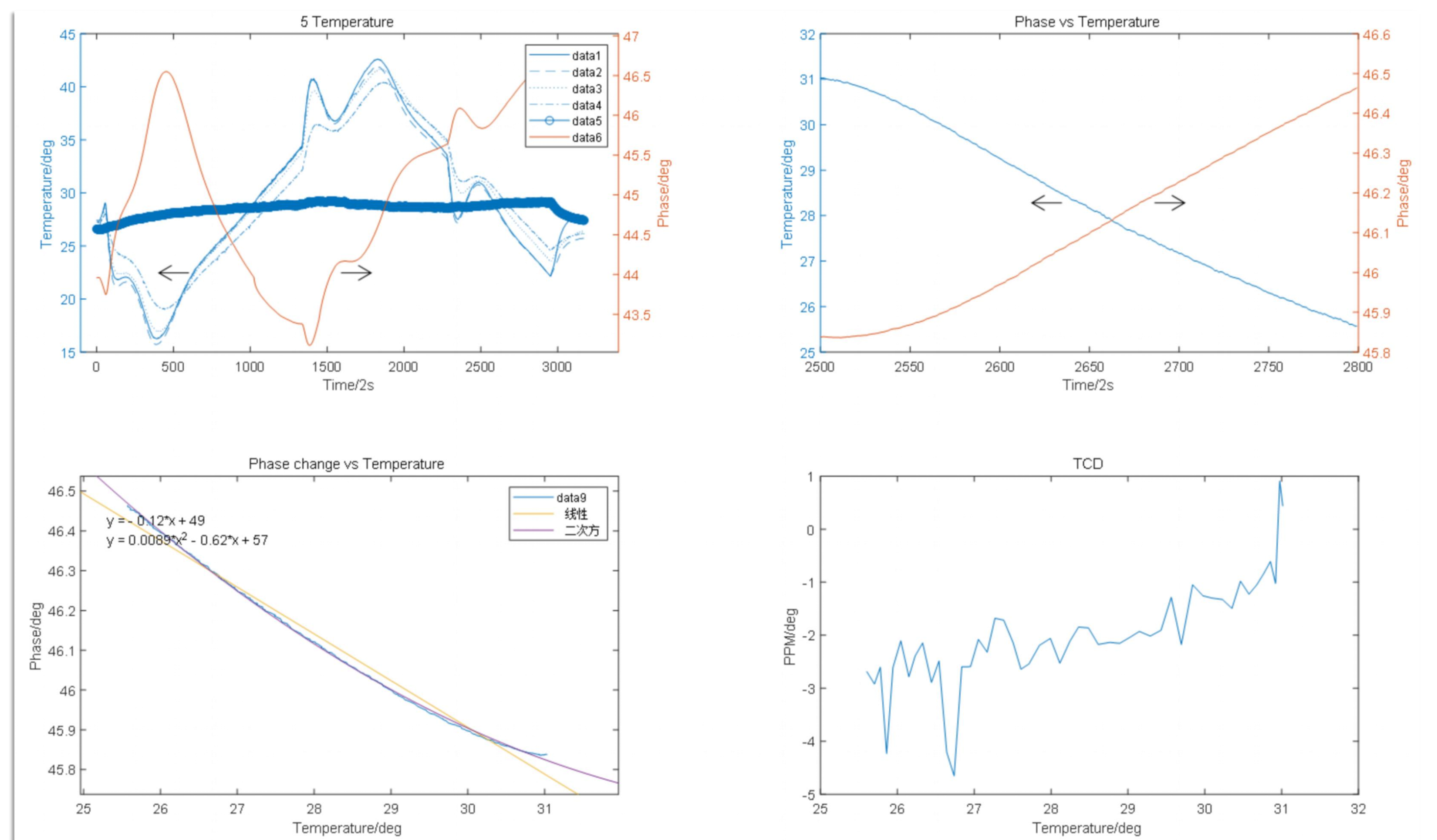
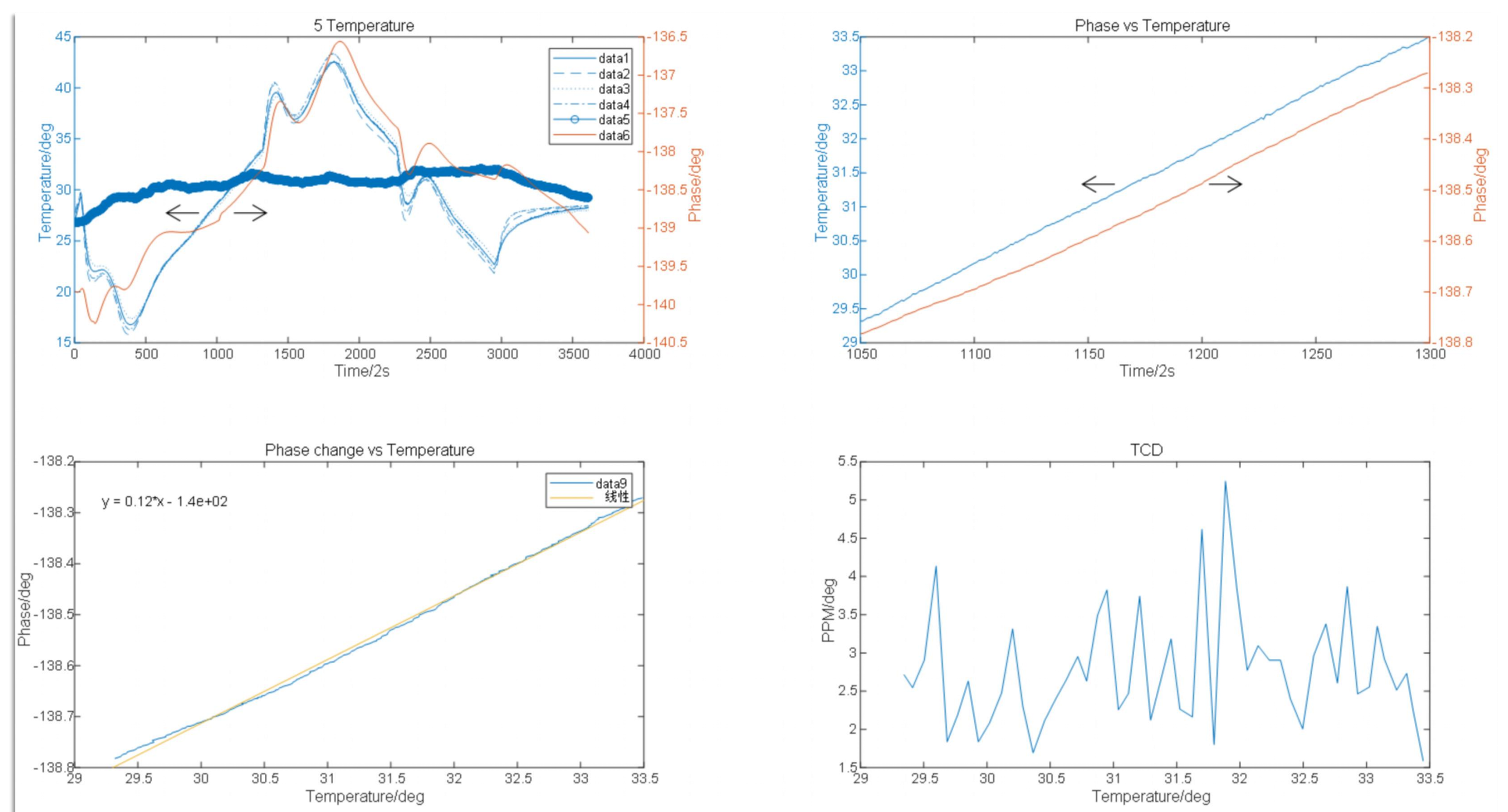
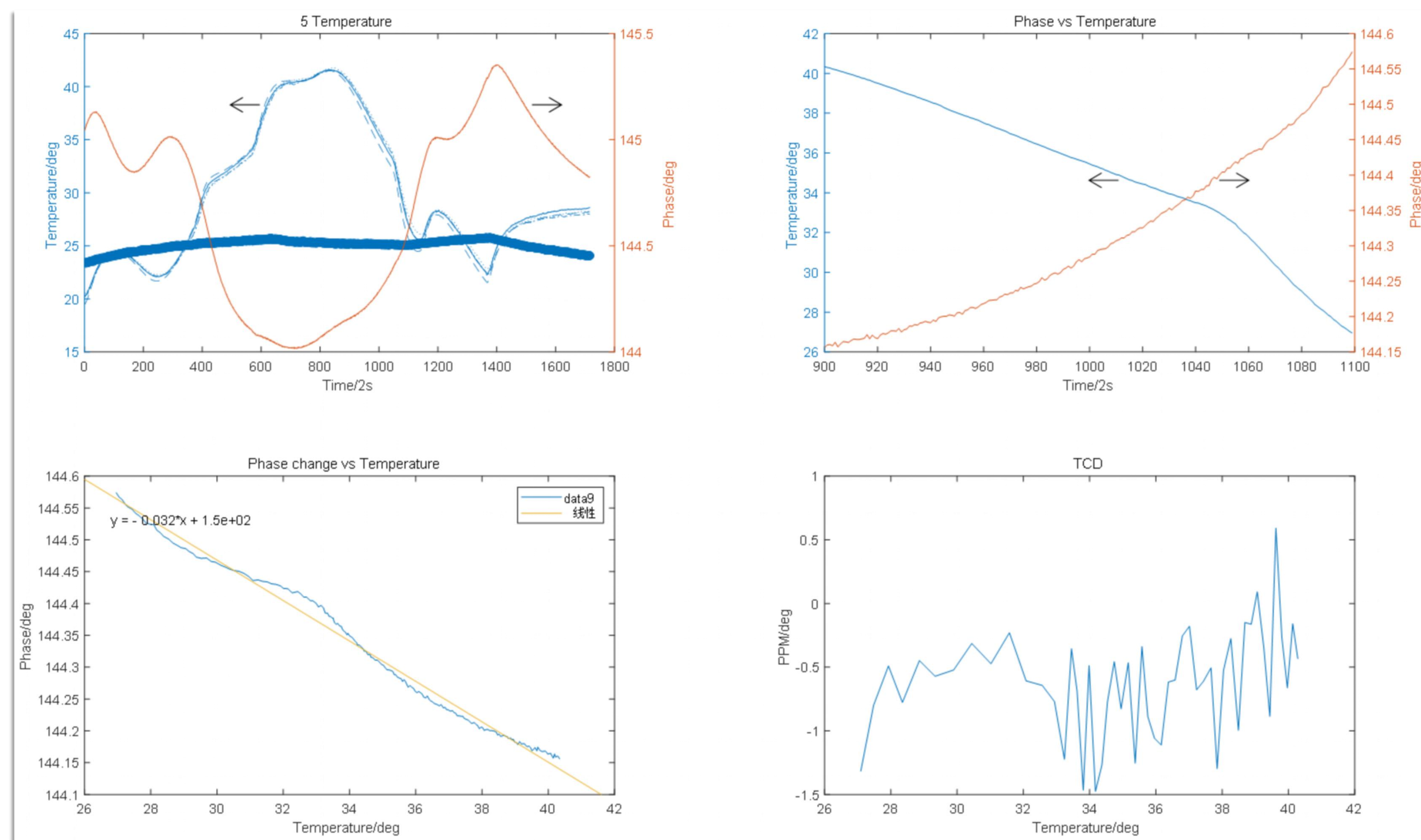
- To minimize the time/phase drift of reference signals of whole facility even in >km scale;
- To maintain the lowest jitter after distributing clock signals for BI/LLRF/FOFB etc. electronics;
- To measure & select 'best' phase-stable cables;



- Temperature Coefficient of Delay :

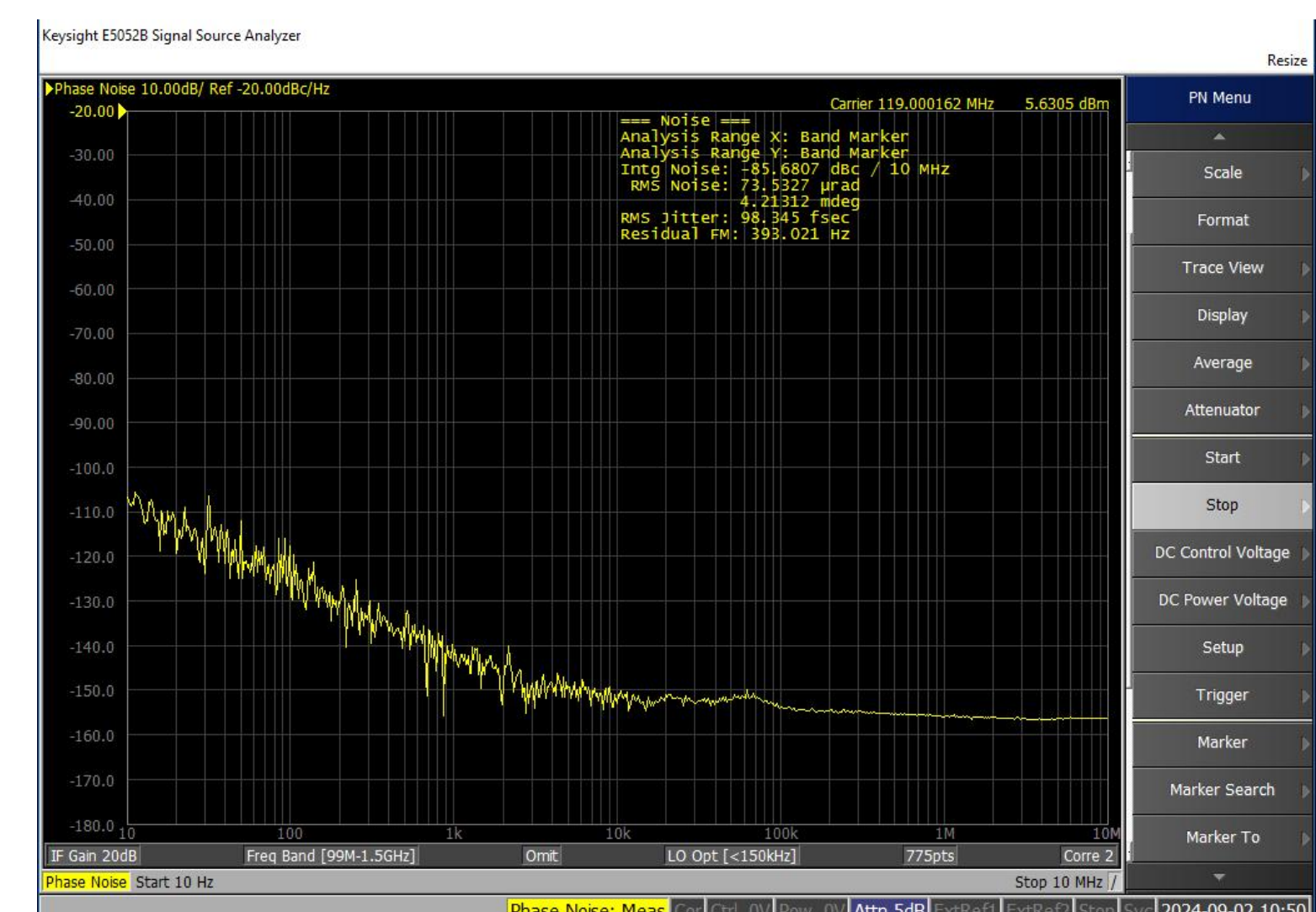
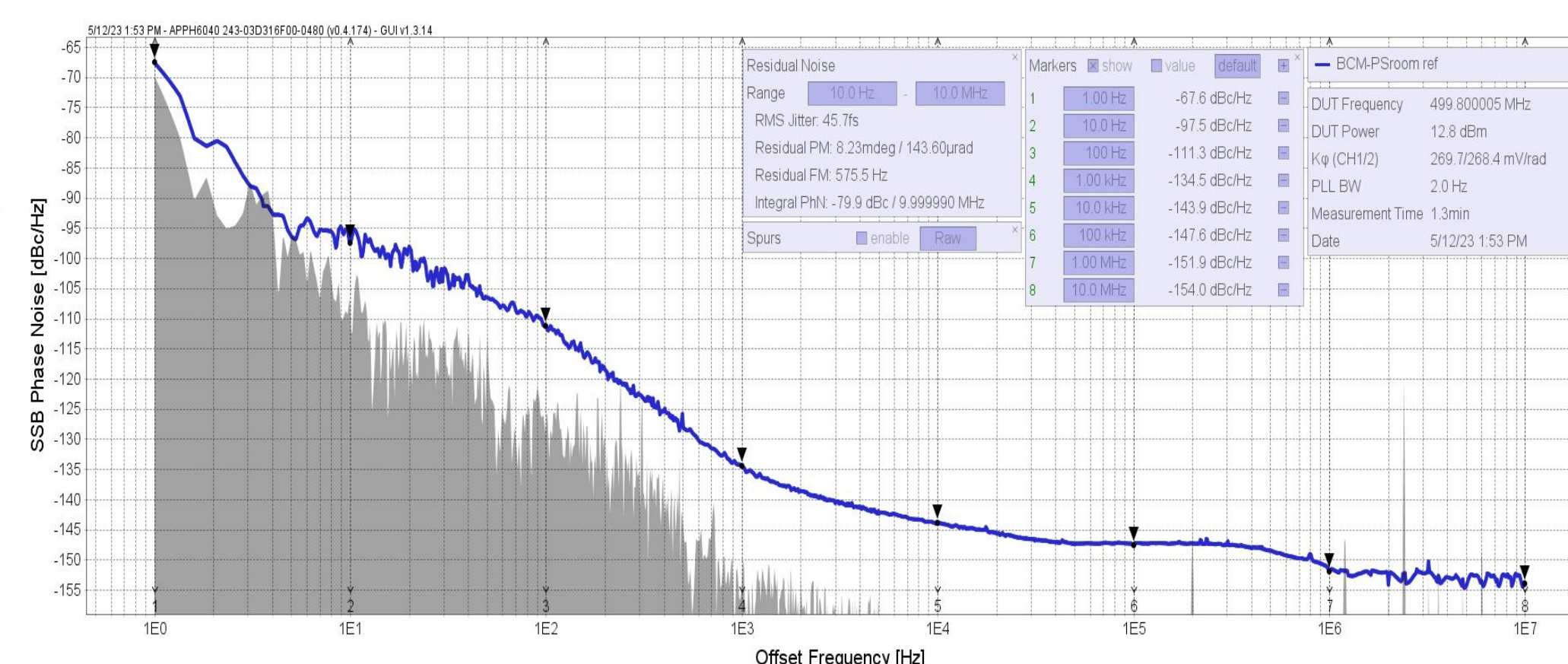
$$T_c = \frac{\Delta\phi * v}{\Delta T * L * f * 360^\circ} * 1e6 \quad T_g = \frac{\Delta t}{\Delta T * L} = \frac{\Delta\phi}{\Delta T * L * f * 360^\circ} = \frac{T_c}{0.3 * \rho}$$

Vendor/Brand	Type Name	Spec. /OD	Velocity/ ρ (*c)	TCD@20-40 °C (ppm)	TCD (fs/m/°C)
Commscope	LDF1-50	1/4" feeder	0.86	2.4	9.3
HU-BER+SUHNER	SUCOFLEX 104	LD-PTFE,5.5mm	0.77	5	21.6
HU-BER+SUHNER	S-10162-B-11	Flexible	0.87	35	134.1
WITC	WL60R	Flexible, 11.7mm	0.87	5.9	23.1
Commscope	LDF2-50	3/8" feeder	0.85	1/-1.3/-0.5/0.9	3.5
Trigiant	HCAAYZ-50-8	3/8" feeder	0.86	-2.5/-2.3	-8.9
Commscope	LDF4-50A	1/2" feeder	0.88	-2	-7.6
Zhongtian(ZTT)	HCAAYZ-50-12	1/2" feeder	0.88	2.5/1.2/2.7	10.2
Kingsignal	HCAAYZ-50-12	1/2" feeder	0.88	-4	-15.2
Datang	HCAAYZ-50-12	1/2" feeder	0.88	-9.8	-37.1
Trigiant	HCAAYZ-50-12	1/2" feeder	0.88	2.1/-4.8	8.0
Commscope	FSJ4-50B	1/2" SuperFlexible	0.81	-9.2/-7	-37.9
Hengxin	HRCAYZ-50-9	1/2" SuperFlexible	0.82	7.5	30.5
Kingsignal	HCAHY-50-9	1/2" SuperFlexible	0.81	17.8/16.4	73.3
Zhongtian(ZTT)	HRCAYZ-50-9	1/2" SuperFlexible	0.82	-5.5	-22.4
Trigiant	HCTAYZ-50-22	7/8" feeder	0.88	2/3/-3/2/-2.1	-8.0
Wutong	HCTAYZ-50-22	7/8" feeder	0.88	-10/-9	-37.9
Hansheng	RF50Z-7/8"	7/8" feeder	0.88	4	15.2
Commscope	AVA5-50	7/8" feeder	0.91	-8	-29.3
Boyang	HCTAYZ-50-22	7/8" feeder	0.88	-10.3	-39.0



Storage Ring BPMs Clock: 98fs

Booster BPMs Clock: 46fs



CommScope LDF2-50A (8m) : -1ppm/°C
ZTT HCAAYZ-50-12 (11m) : 2.5ppm/°C
Trigiant HCTAYZ-50-22 (14m) : -2ppm/°C