Pattern Measurement mmWave Feeds Incoming RF Tests

Test Summary Report

Engin Gülten

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Test Matrix

Performed Measurements	
Antenna Reference Pattern Measurement	Performed
Gain Measurement (Gain Comparison Method)	Performed

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Antennas Under Test

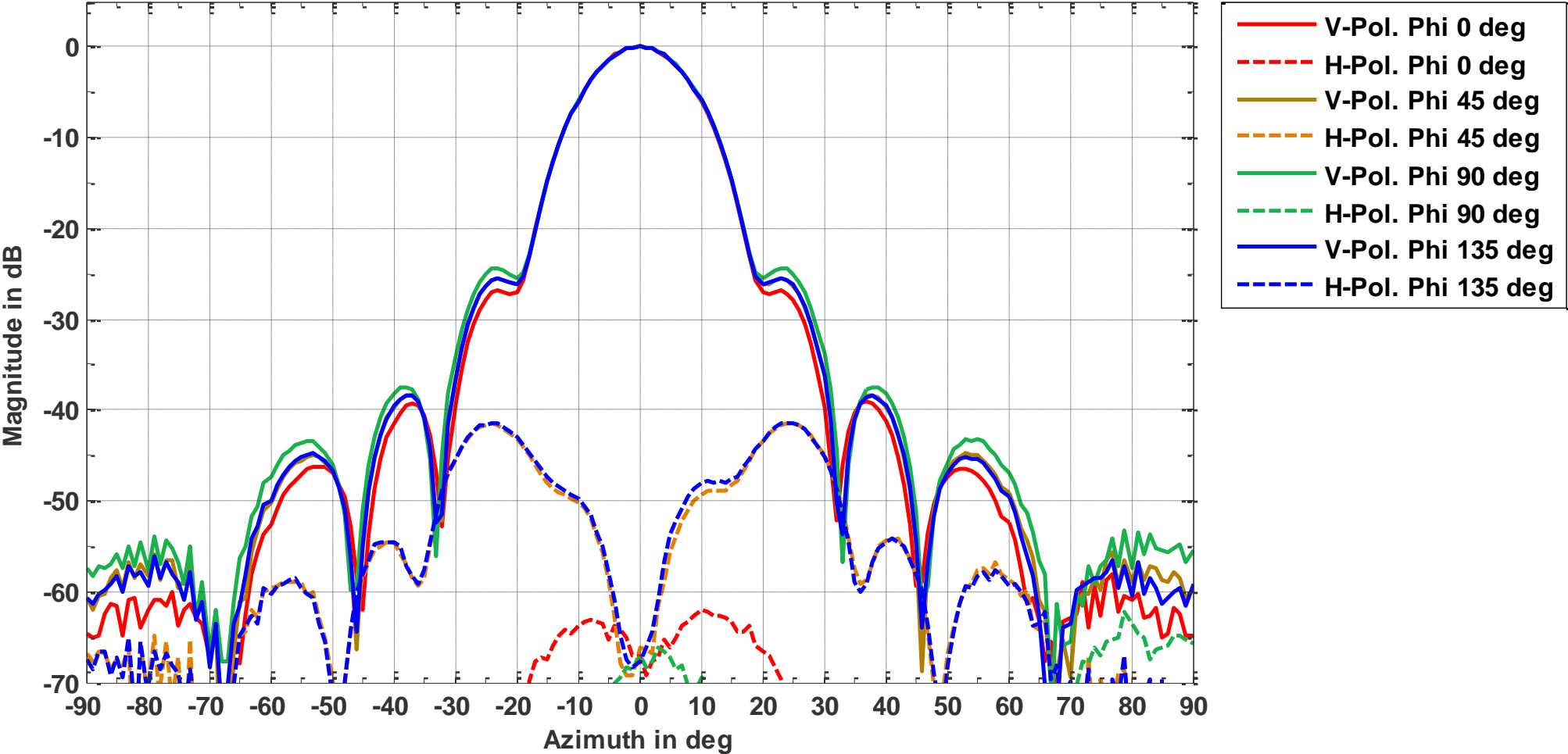| Frequency Band	Frequency Band	Antenna Under Test
50 GHz – 75 GHz	V-Band	Corrigated Horn Range Feed
75 GHz – 110 GHz	W-Band	Corrigated Horn Range Feed
140 GHz – 220 GHz	G-Band	Corrigated Horn Range Feed

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V-Band Range Feed
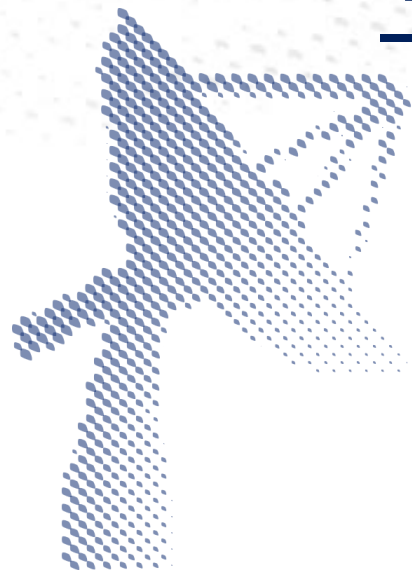
Phase Center

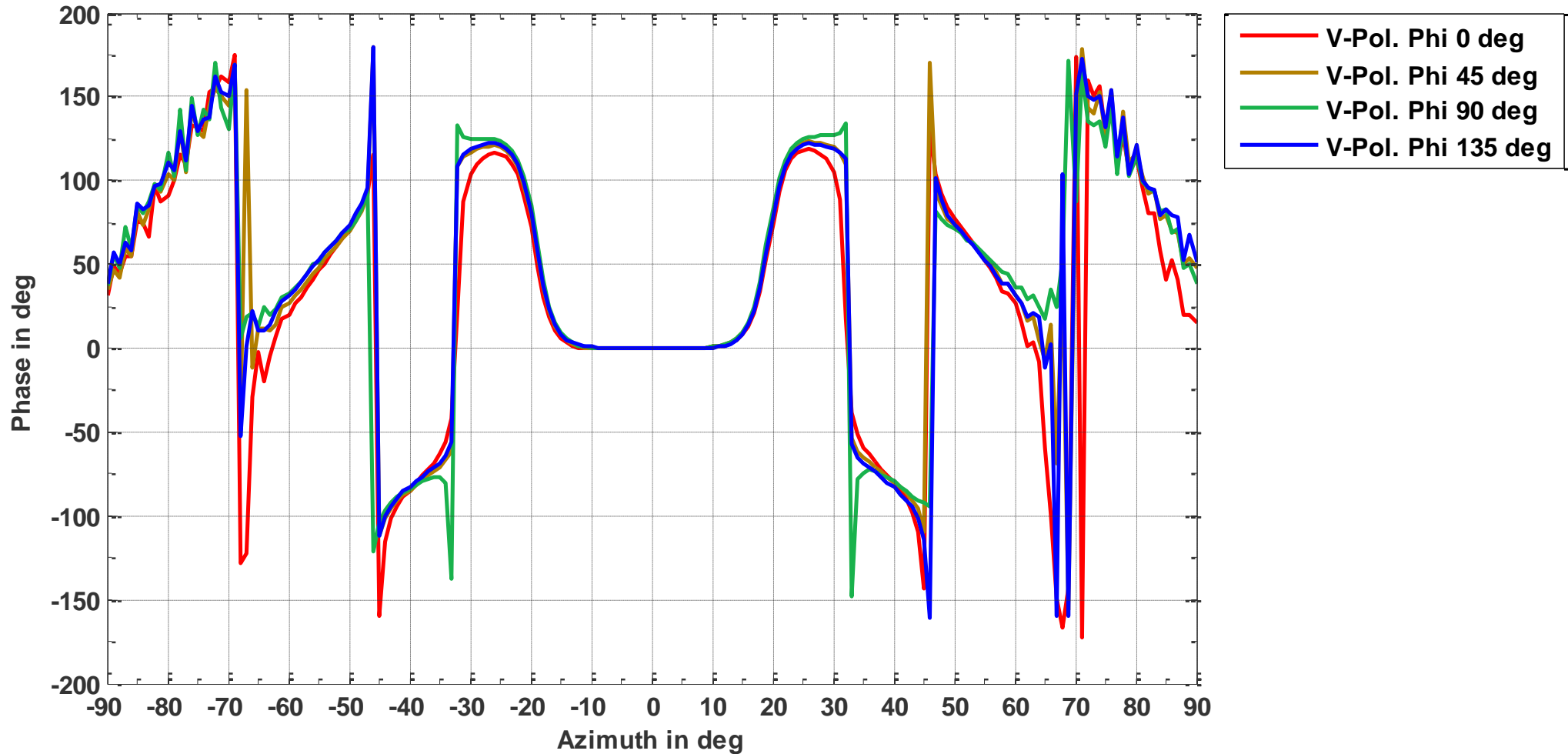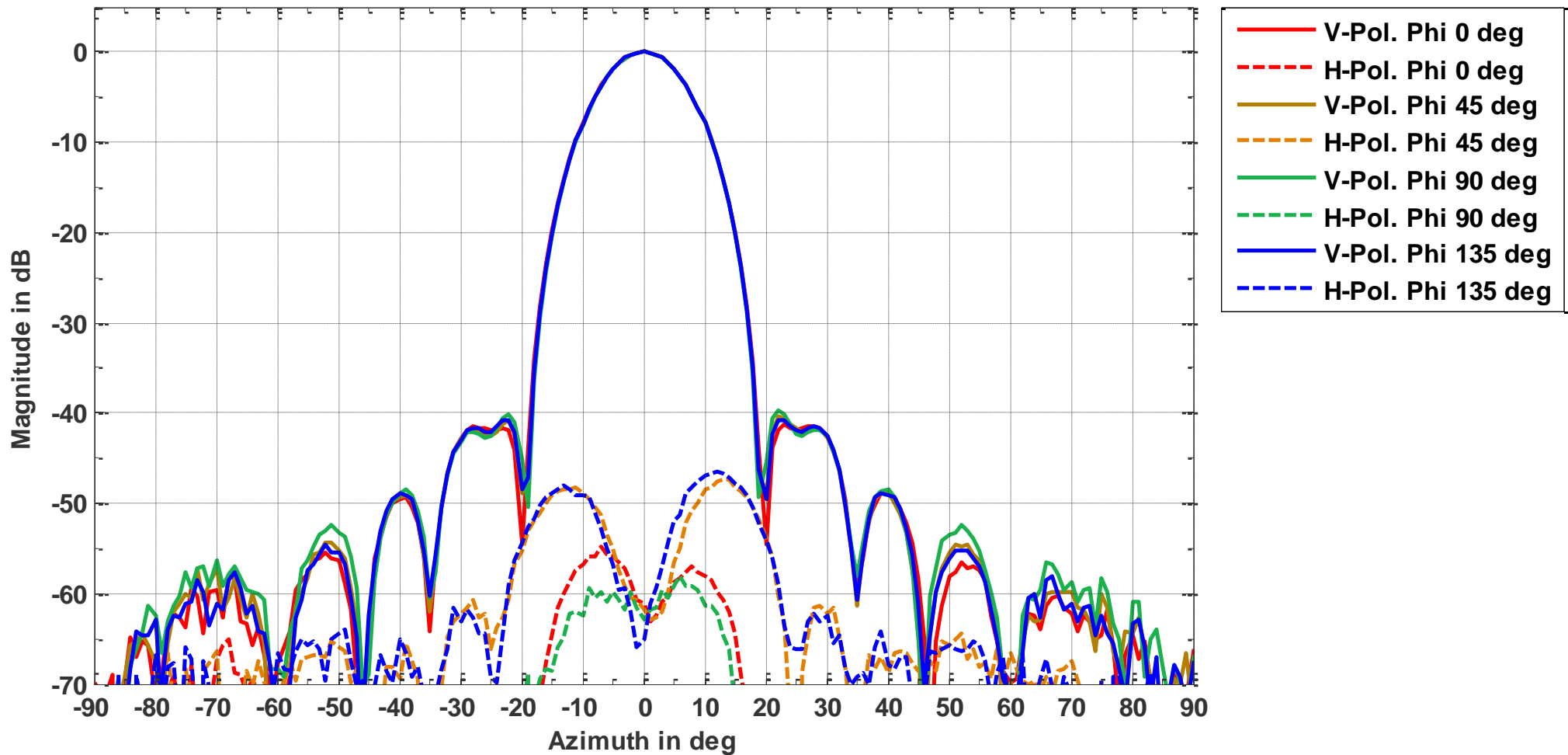| Frequency Band	Frequency Band	Phase Center Behind Feed Aperture in mm
V-Band	50	6.7
	62.5	4.4
	75	-9.1

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Range Feed Pattern, V-Band, 50 GHz

V-Band (50 GHz - 75 GHz), Range Feed
Reference Pattern Measurement @ 50 GHz

Range Feed Phase Pattern, V-Band, 50 GHz

V-Band (50 GHz - 75 GHz), Range Feed
Reference Pattern Measurement @ 50 GHz

Legend:
- V-Pol. Phi 0 deg
- V-Pol. Phi 45 deg
- V-Pol. Phi 90 deg
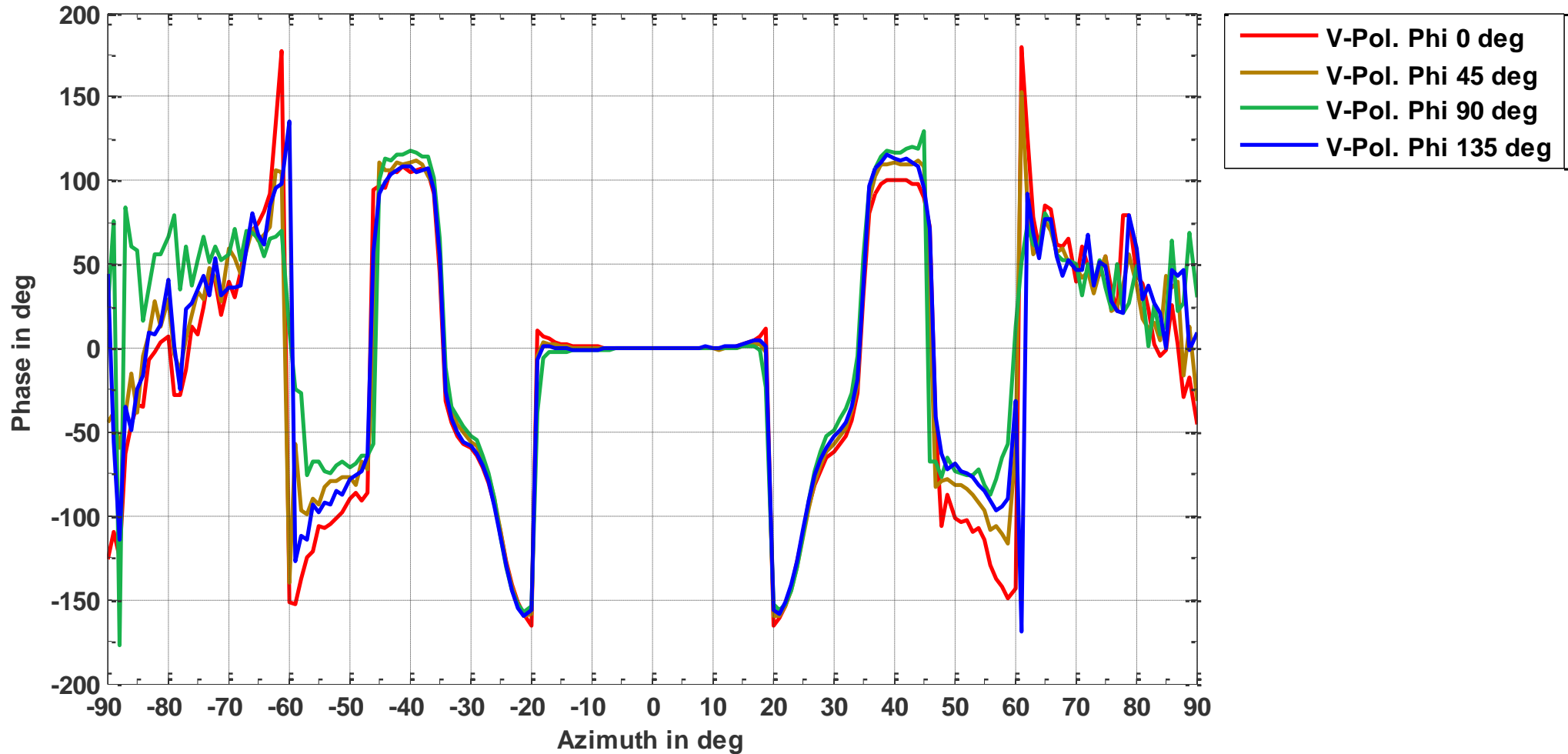- V-Pol. Phi 135 deg

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Range Feed Pattern, V-Band, 62.5 GHz

V-Band (50 GHz - 75 GHz), Range Feed
Reference Pattern Measurement @ 62.5 GHz

Range Feed Phase Pattern, V-Band, 50 GHz

V-Band (50 GHz - 75 GHz), Range Feed
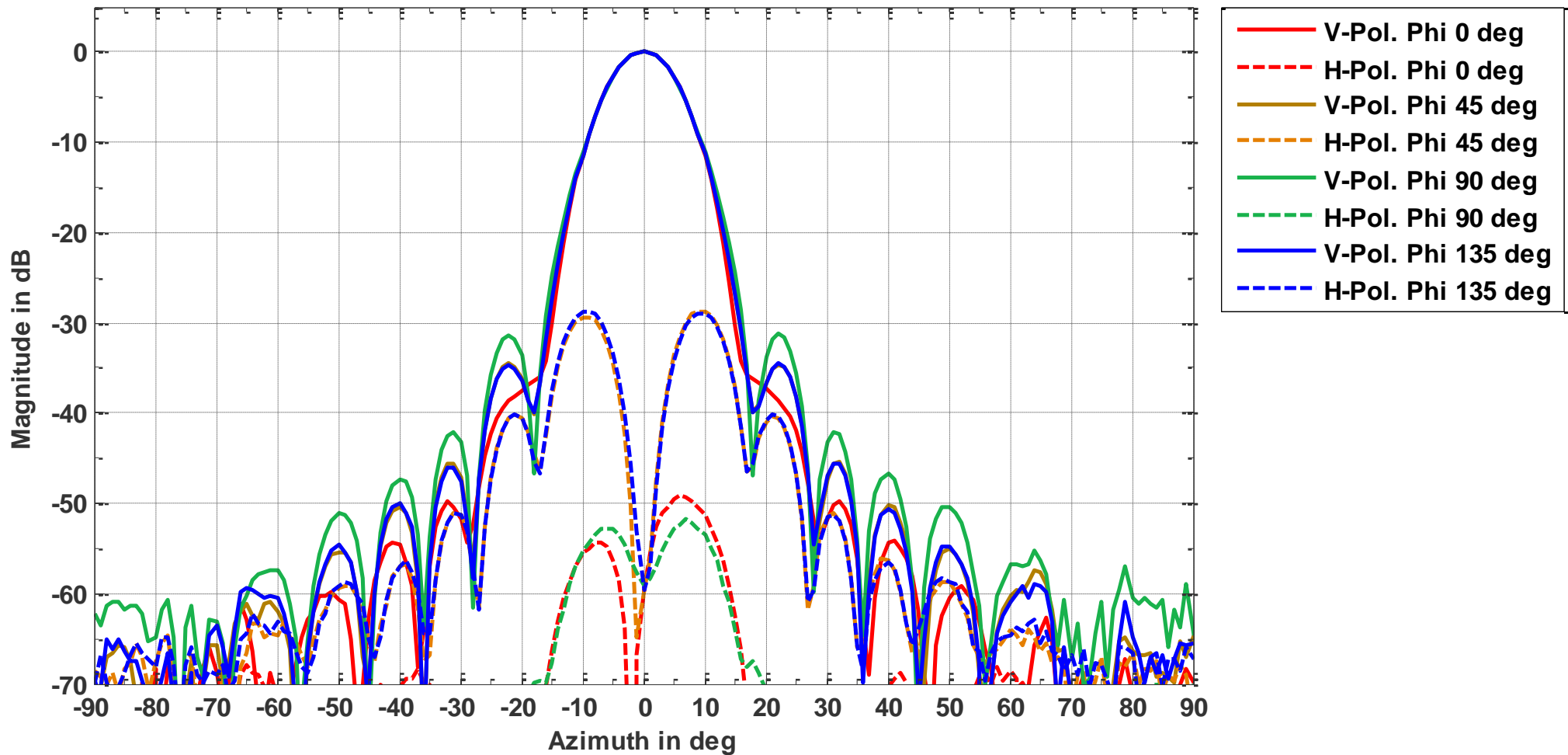Reference Pattern Measurement @ 62.5 GHz

Legend:
- V-Pol. Phi 0 deg
- V-Pol. Phi 45 deg
- V-Pol. Phi 90 deg
- V-Pol. Phi 135 deg

X-axis: Azimuth in deg
Y-axis: Phase in deg

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Range Feed Pattern, V-Band, 75 GHz

V-Band (50 GHz - 75 GHz), Range Feed
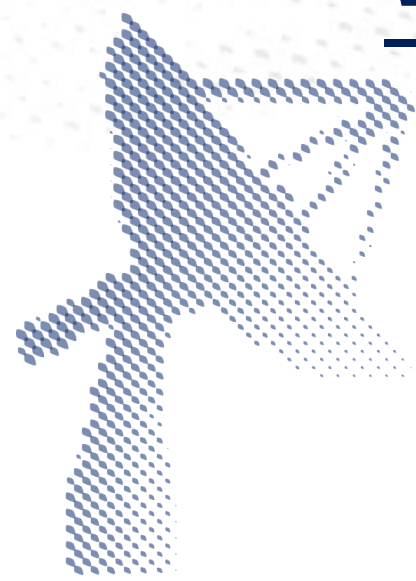*Reference Pattern Measurement @ 75 GHz*

Range Feed Phase Pattern, V-Band, 75 GHz

V-Band (50 GHz - 75 GHz), Range Feed
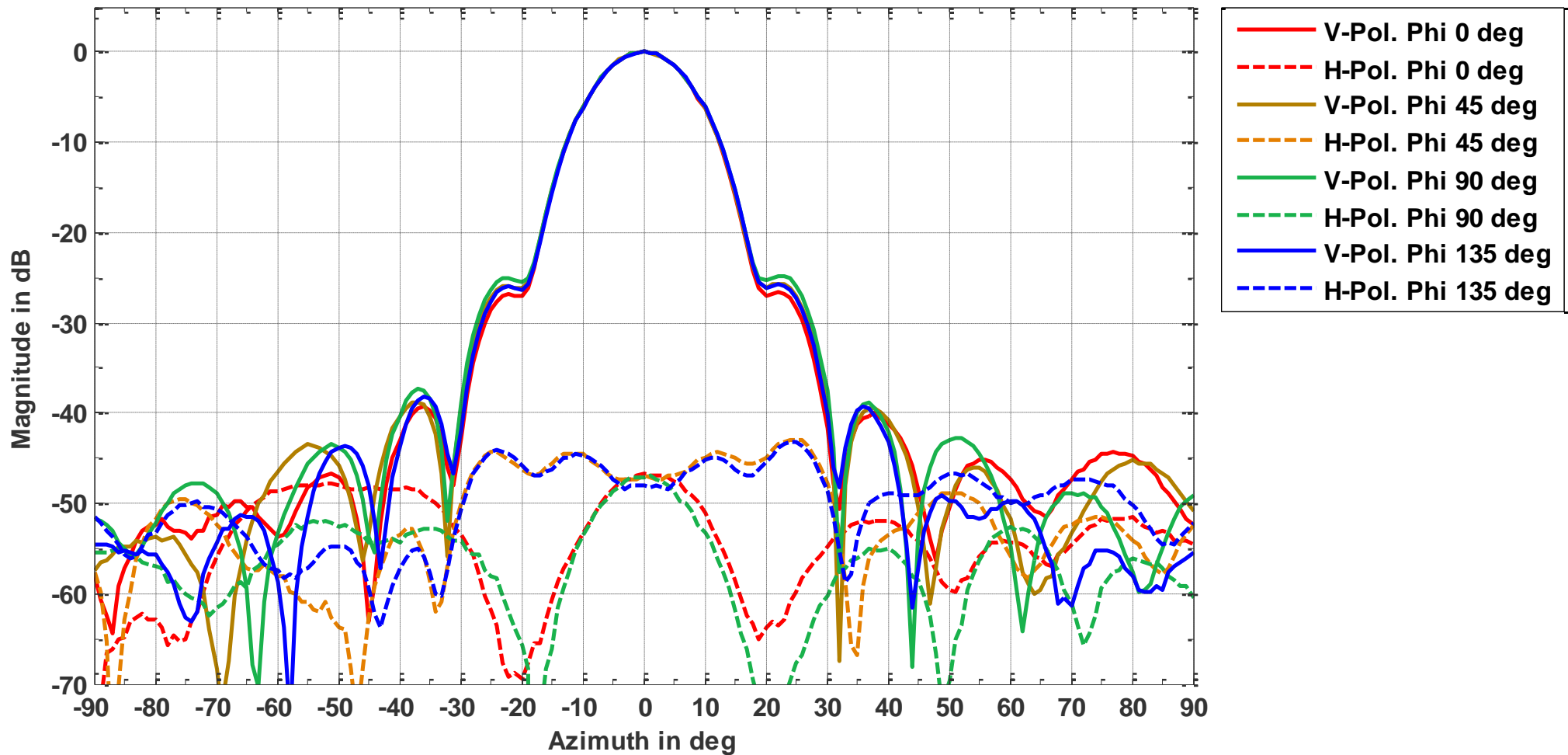Reference Pattern Measurement @ 75 GHz
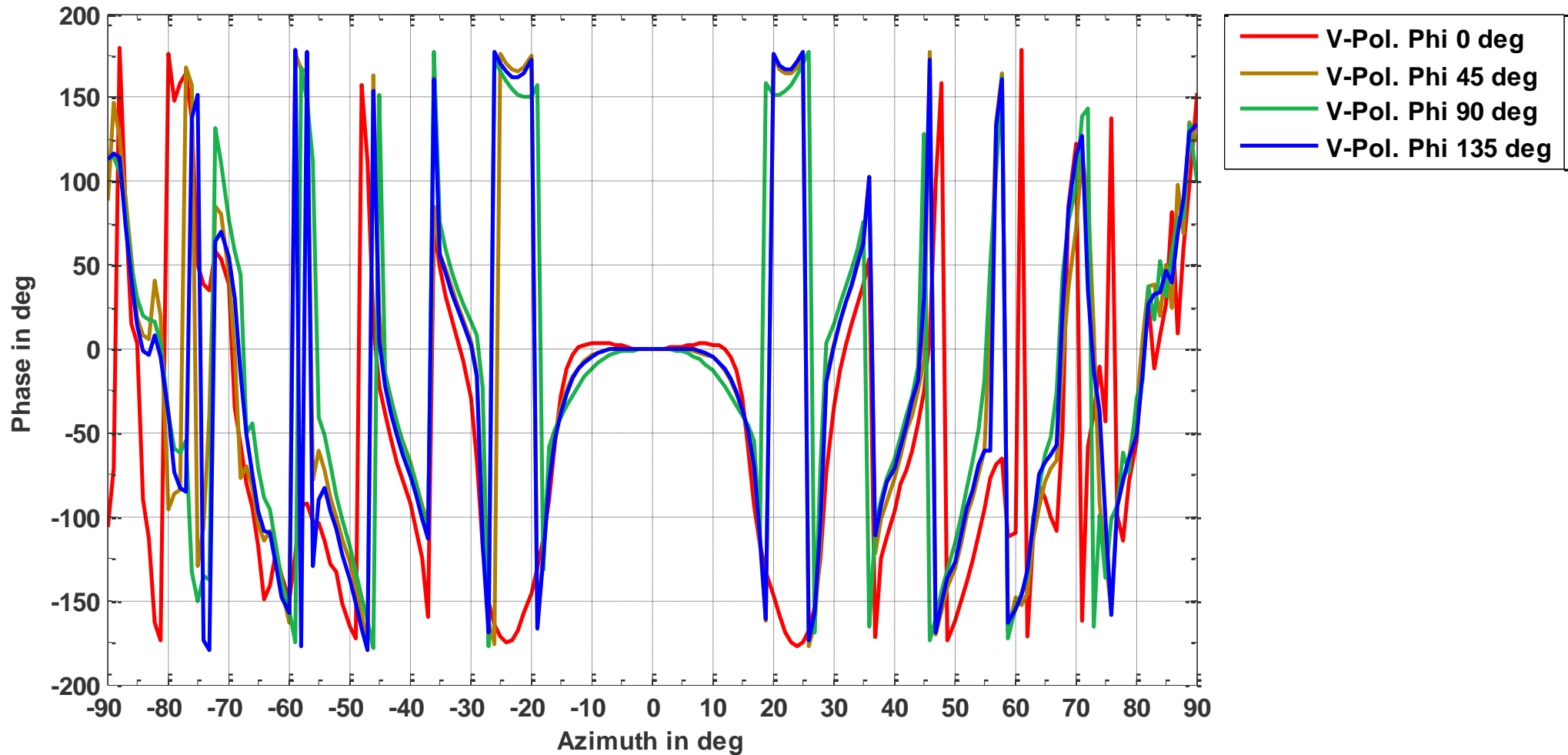
W-Band Range Feed

Phase Center

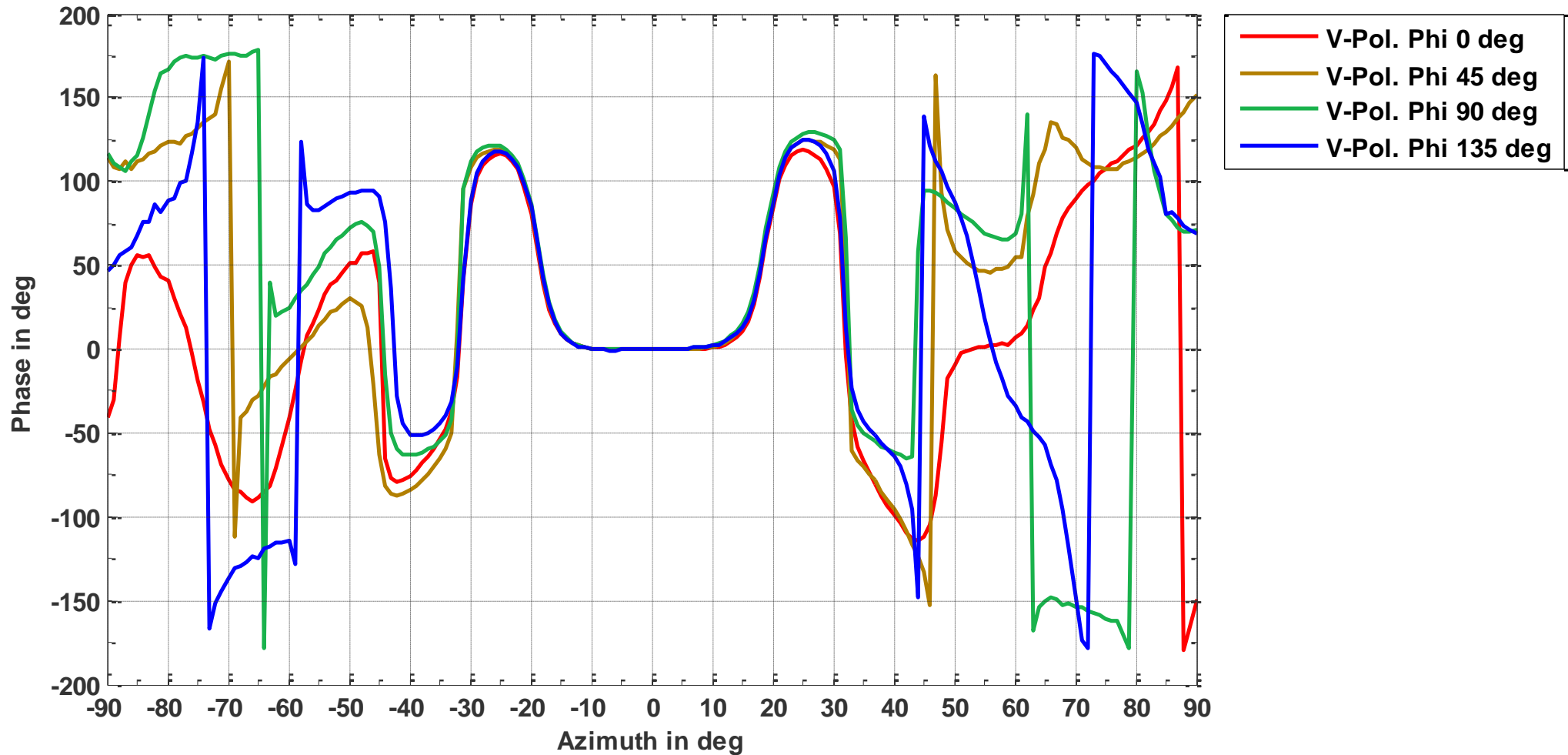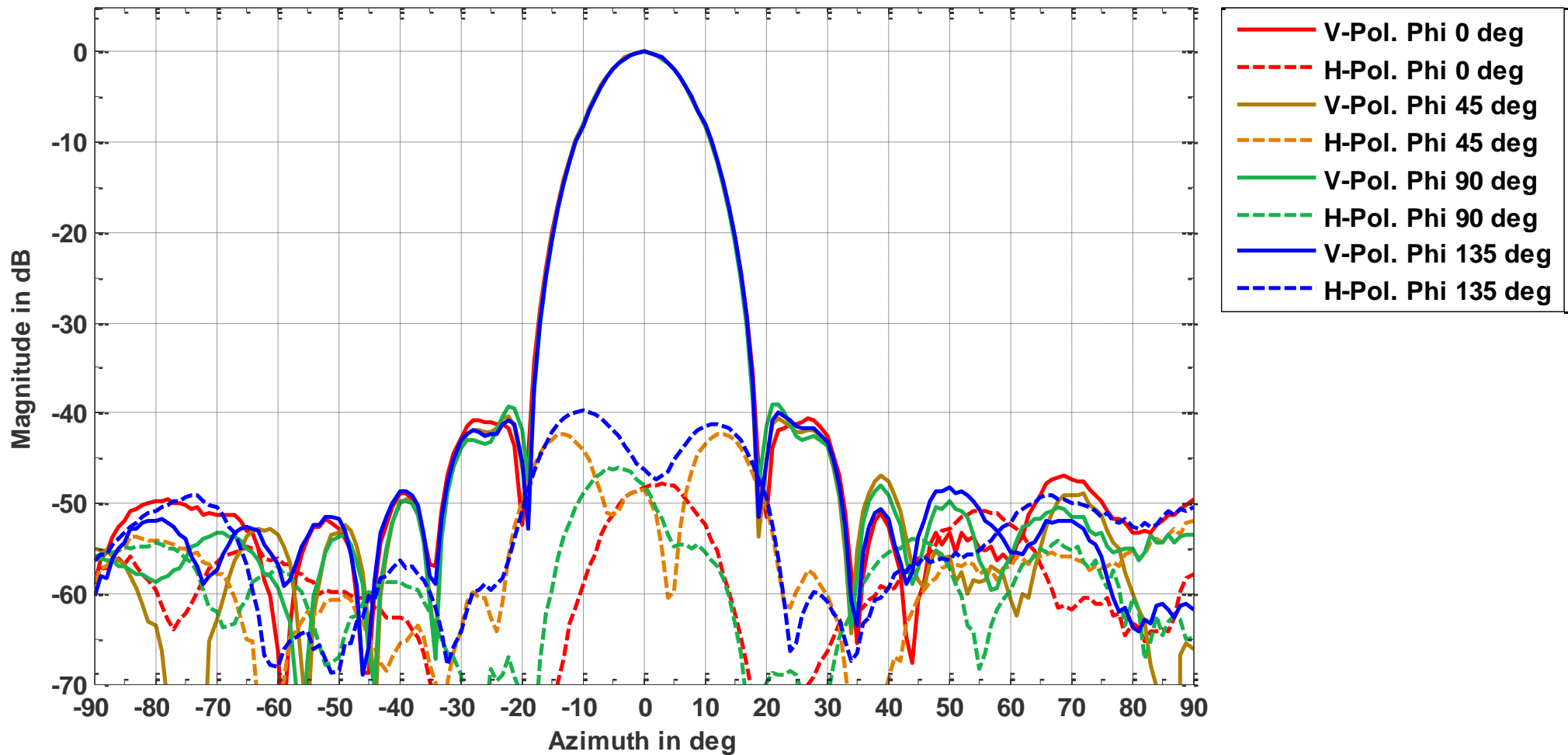| Frequency Band	Frequency Band	Phase Center Behind Feed Aperture in mm
W-Band	75	3.9
	92.5	5.6
	110	-14.0

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Range Feed Pattern, W-Band, 75 GHz

W-Band (75 GHz - 110 GHz), Range Feed
Reference Pattern Measurement @ 75 GHz

Range Feed Pattern, W-Band, 75 GHz

W-Band (75 GHz - 110 GHz), Range Feed
Reference Pattern Measurement @ 75 GHz

Legend:
- V-Pol. Phi 0 deg
- V-Pol. Phi 45 deg
- V-Pol. Phi 90 deg
- V-Pol. Phi 135 deg

X-axis: Azimuth in deg
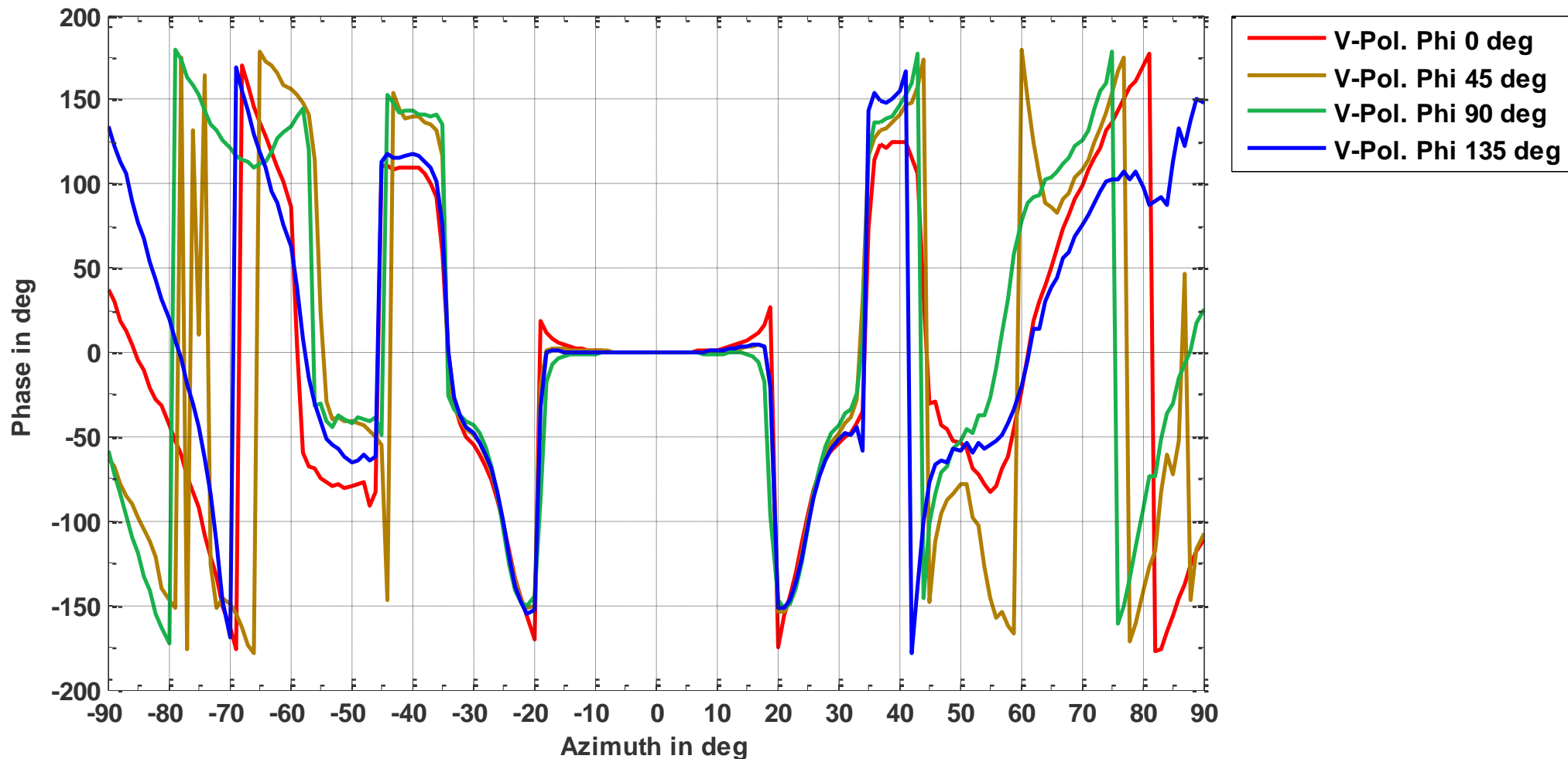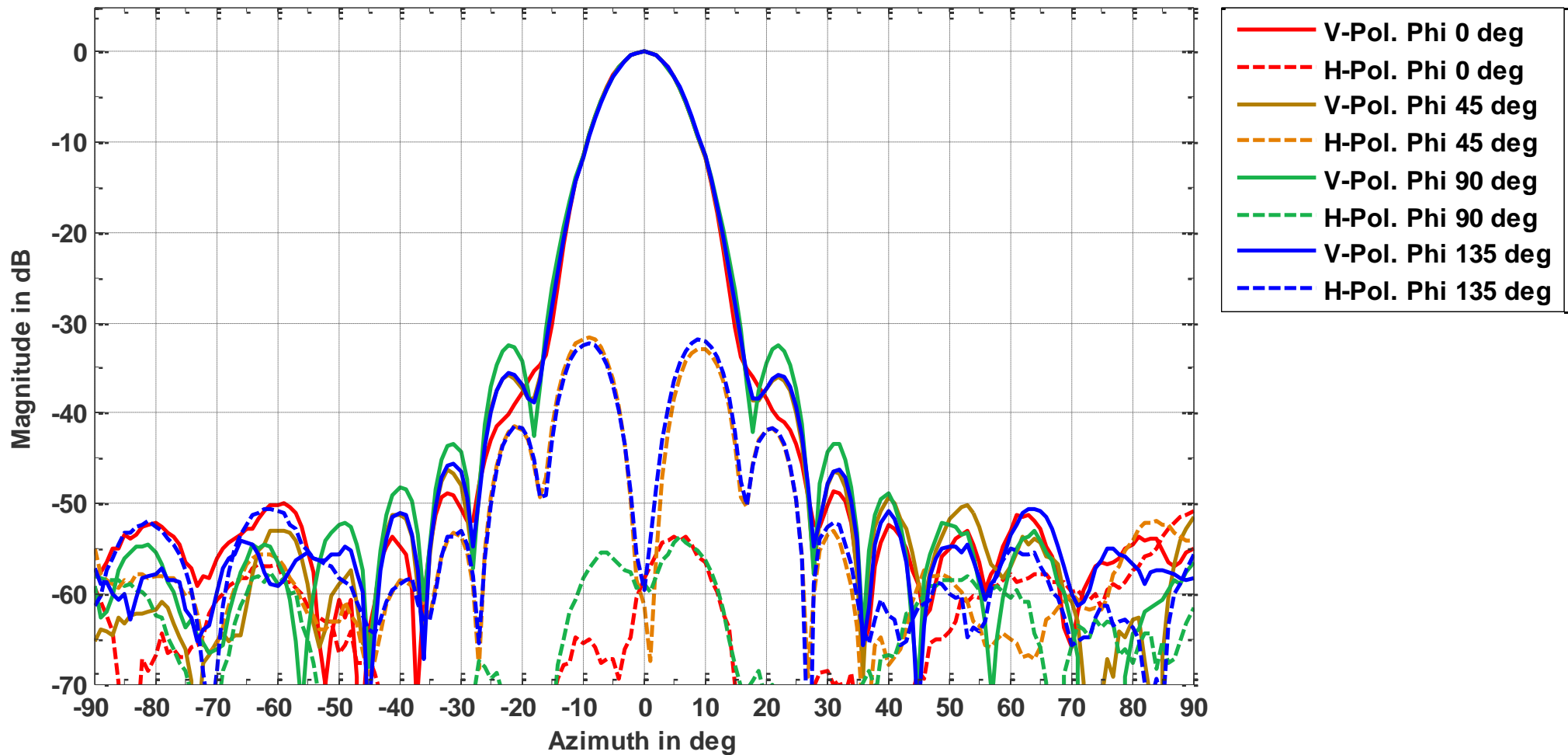Y-axis: Phase in deg

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Range Feed Pattern, W-Band, 92.5 GHz

W-Band (75 GHz - 110 GHz), Range Feed
Reference Pattern Measurement @ 92.5 GHz

Range Feed Pattern, W-Band, 92.5 GHz

W-Band (75 GHz - 110 GHz), Range Feed
Reference Pattern Measurement @ 92.5 GHz

Legend:
- V-Pol. Phi 0 deg
- V-Pol. Phi 45 deg
- V-Pol. Phi 90 deg
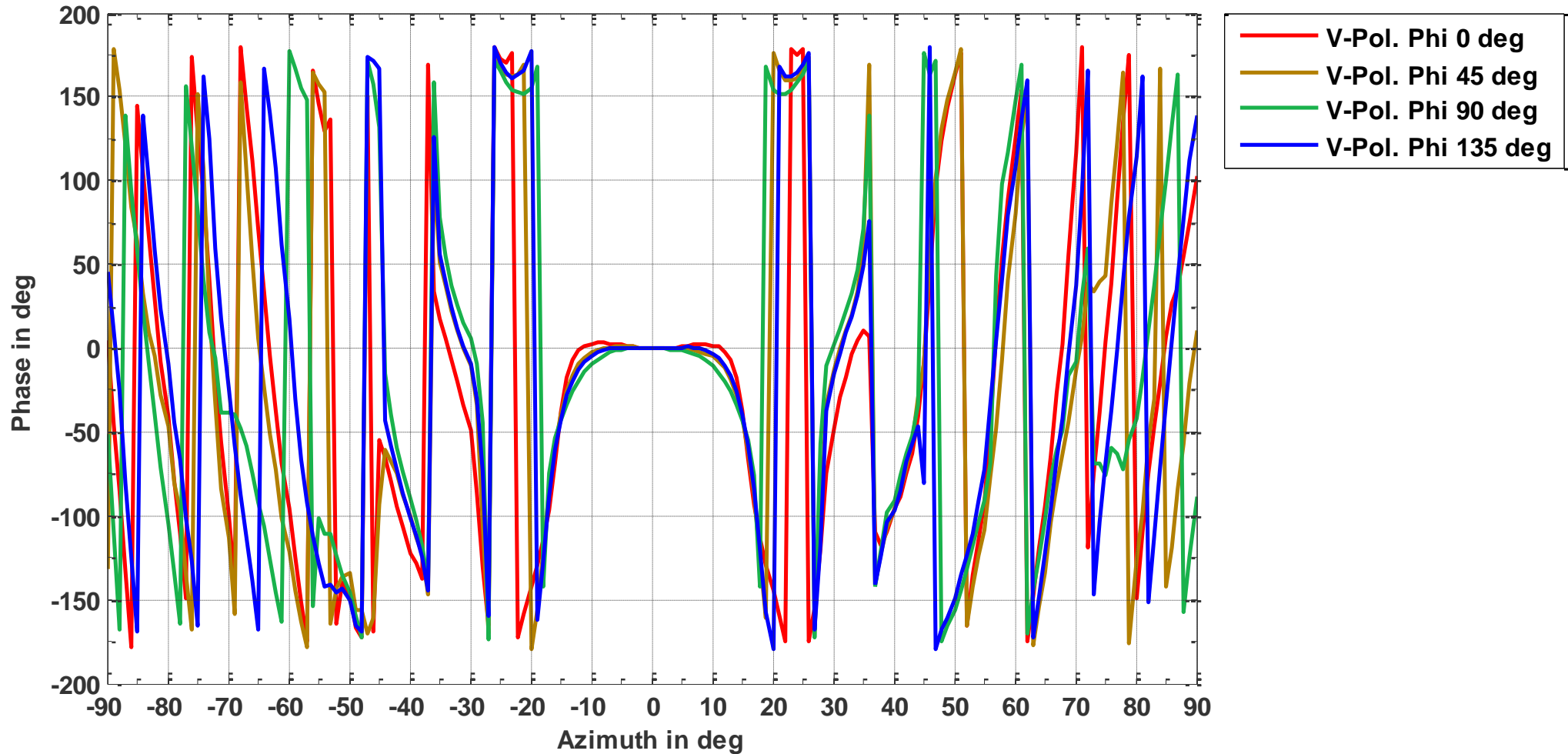- V-Pol. Phi 135 deg

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Range Feed Pattern, W-Band, 110 GHz

W-Band (75 GHz - 110 GHz), Range Feed
Reference Pattern Measurement @ 110 GHz

Range Feed Pattern, W-Band, 110 GHz

W-Band (75 GHz - 110 GHz), Range Feed
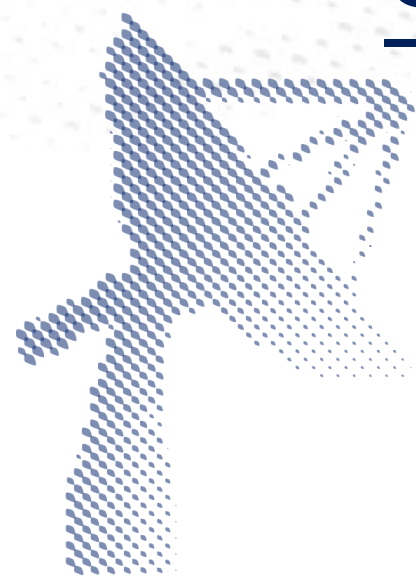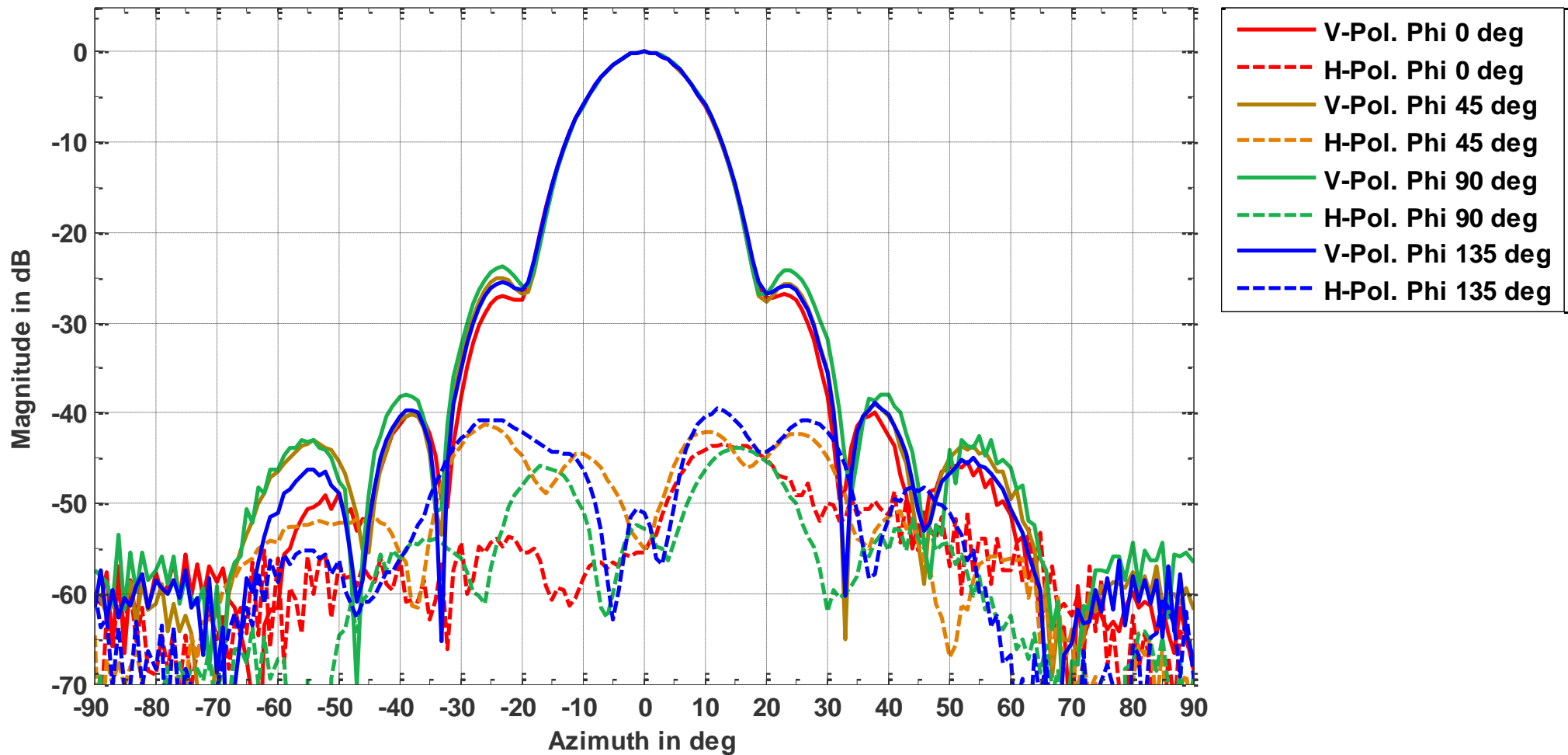*Reference Pattern Measurement @ 110 GHz*

G-Band Range Feed

Phase Center

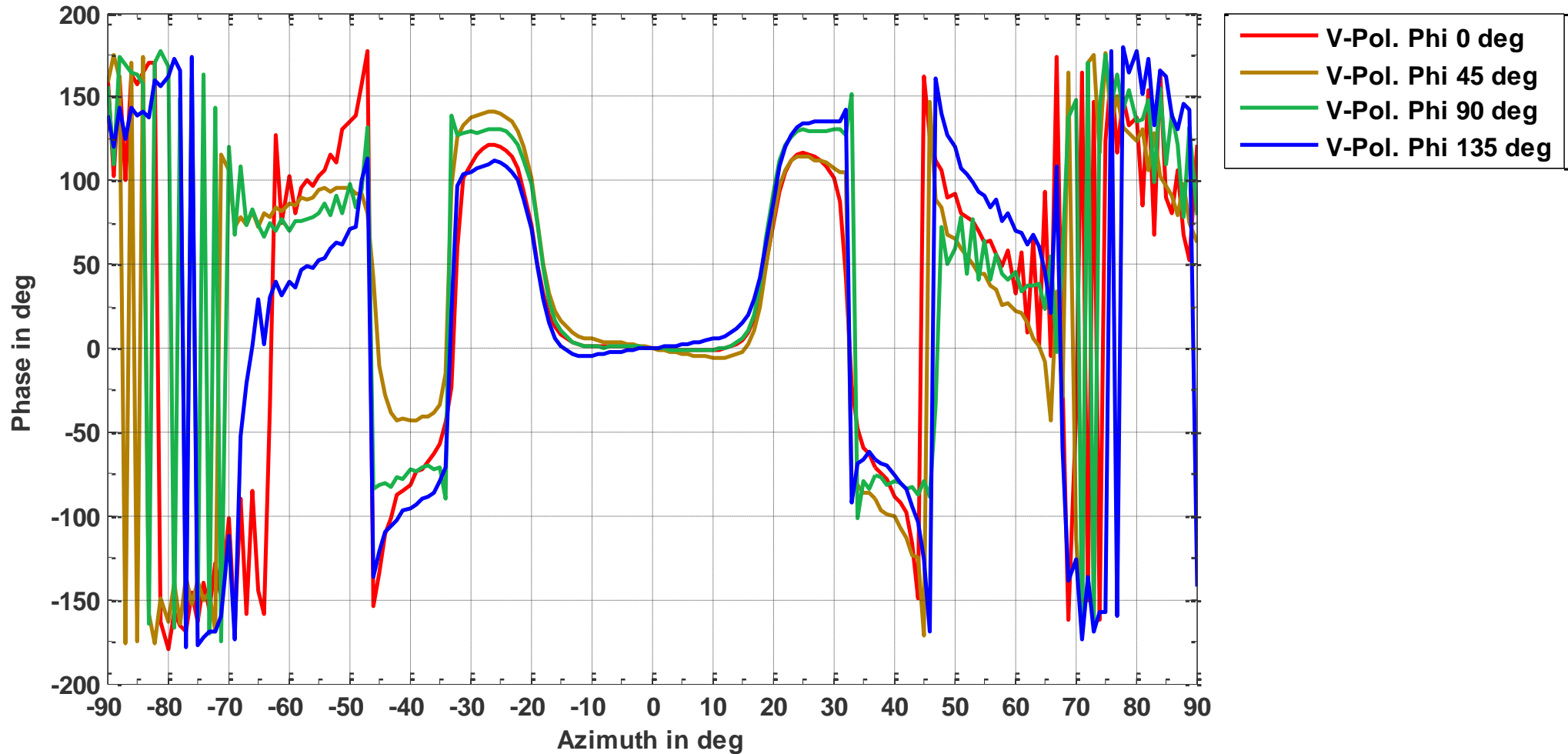| Frequency Band	Frequency Band	Phase Center Behind Feed Aperture in mm
G-Band	140	1.42
	180	0.62
	220	-6.38

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Range Feed Pattern, G-Band, 140 GHz

G-Band (140 GHz - 220 GHz), Range Feed
Reference Pattern Measurement @ 140 GHz

Range Feed Pattern, G-Band, 140 GHz

G-Band (140 GHz - 220 GHz), Range Feed
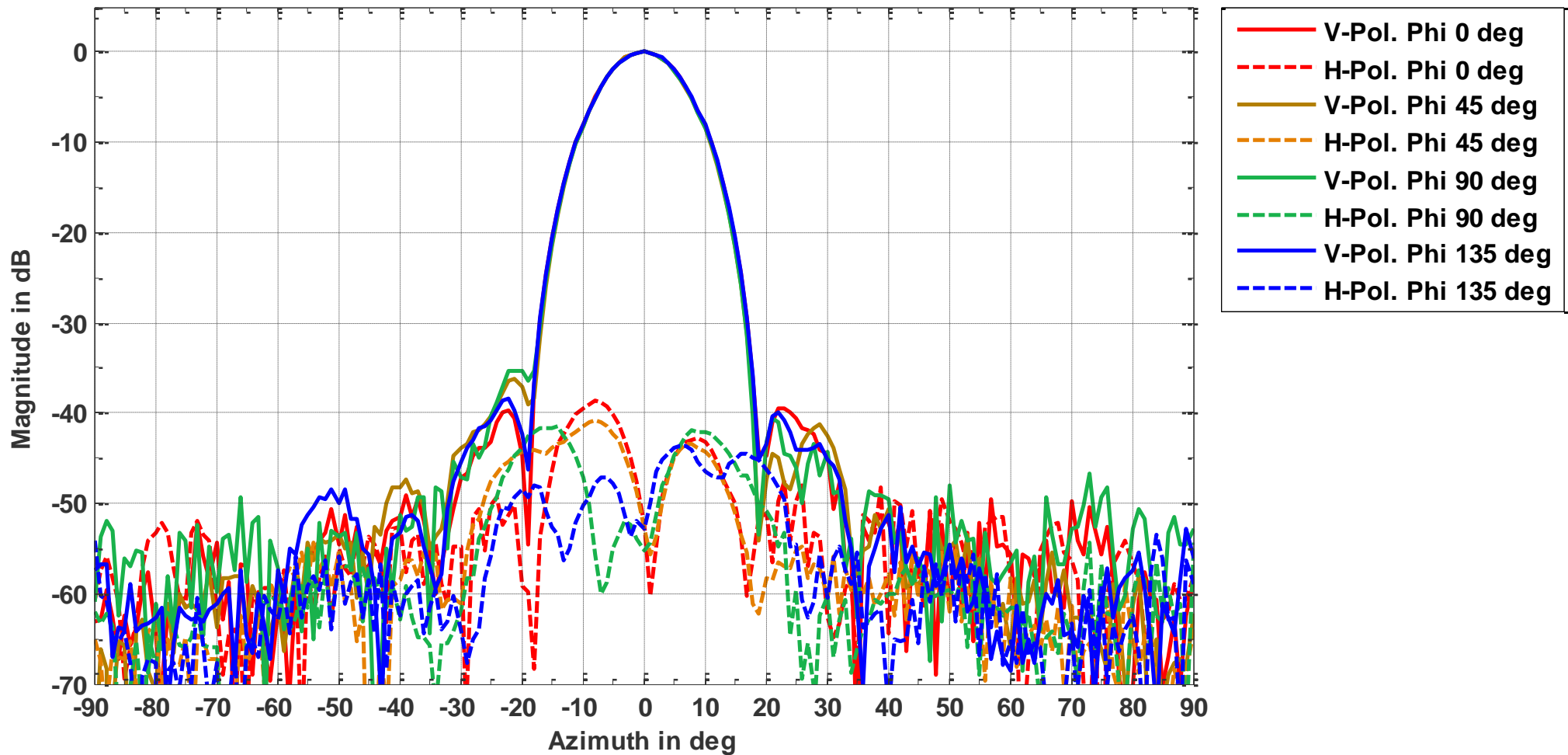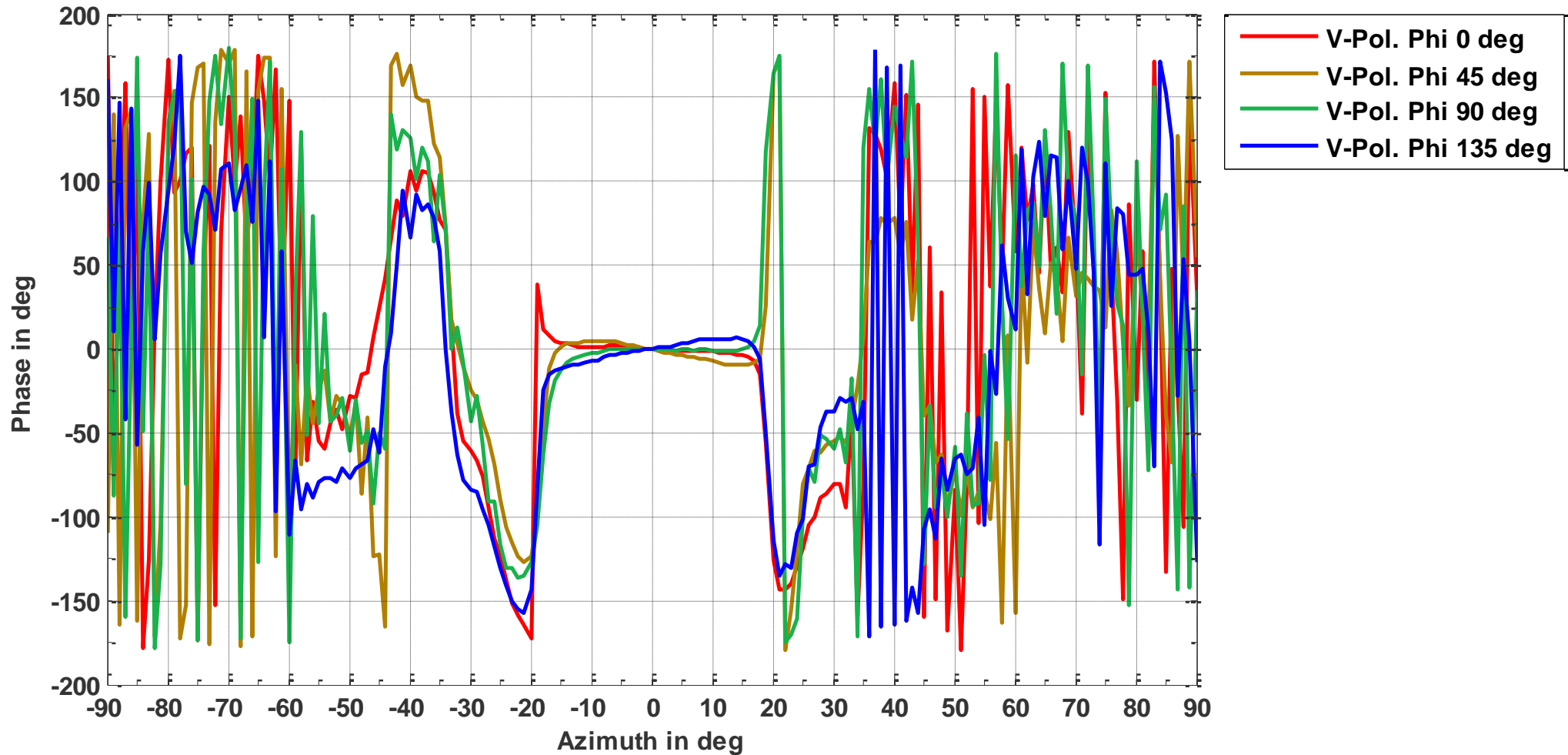*Reference Pattern Measurement @ 140 GHz*

Range Feed Pattern, G-Band, 180 GHz

G-Band (140 GHz - 220 GHz), Range Feed
Reference Pattern Measurement @ 180 GHz

Range Feed Pattern, G-Band, 180 GHz

G-Band (140 GHz - 220 GHz), Range Feed
Reference Pattern Measurement @ 180 GHz

Legend:
- V-Pol. Phi 0 deg
- V-Pol. Phi 45 deg
- V-Pol. Phi 90 deg
- V-Pol. Phi 135 deg

X-axis: Azimuth in deg
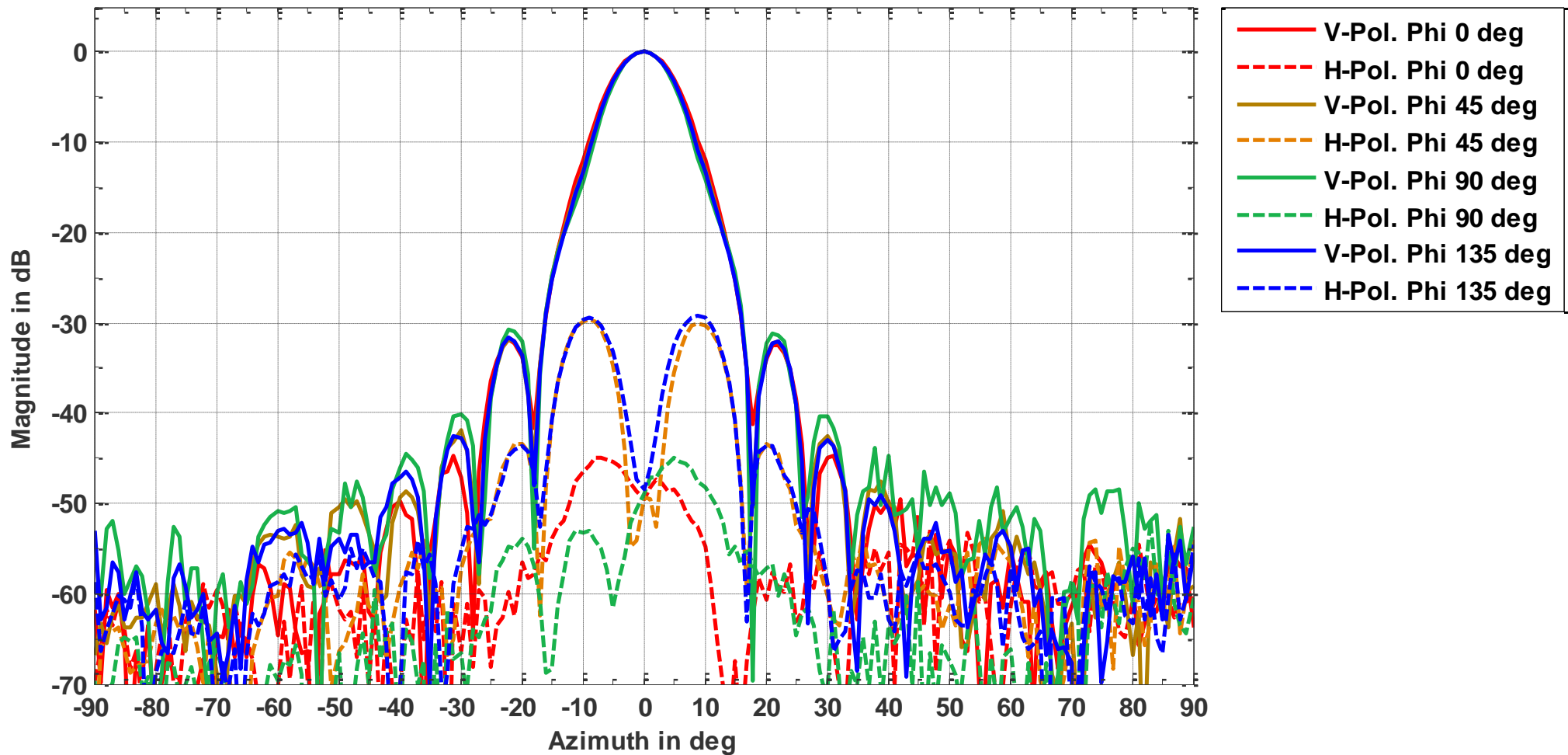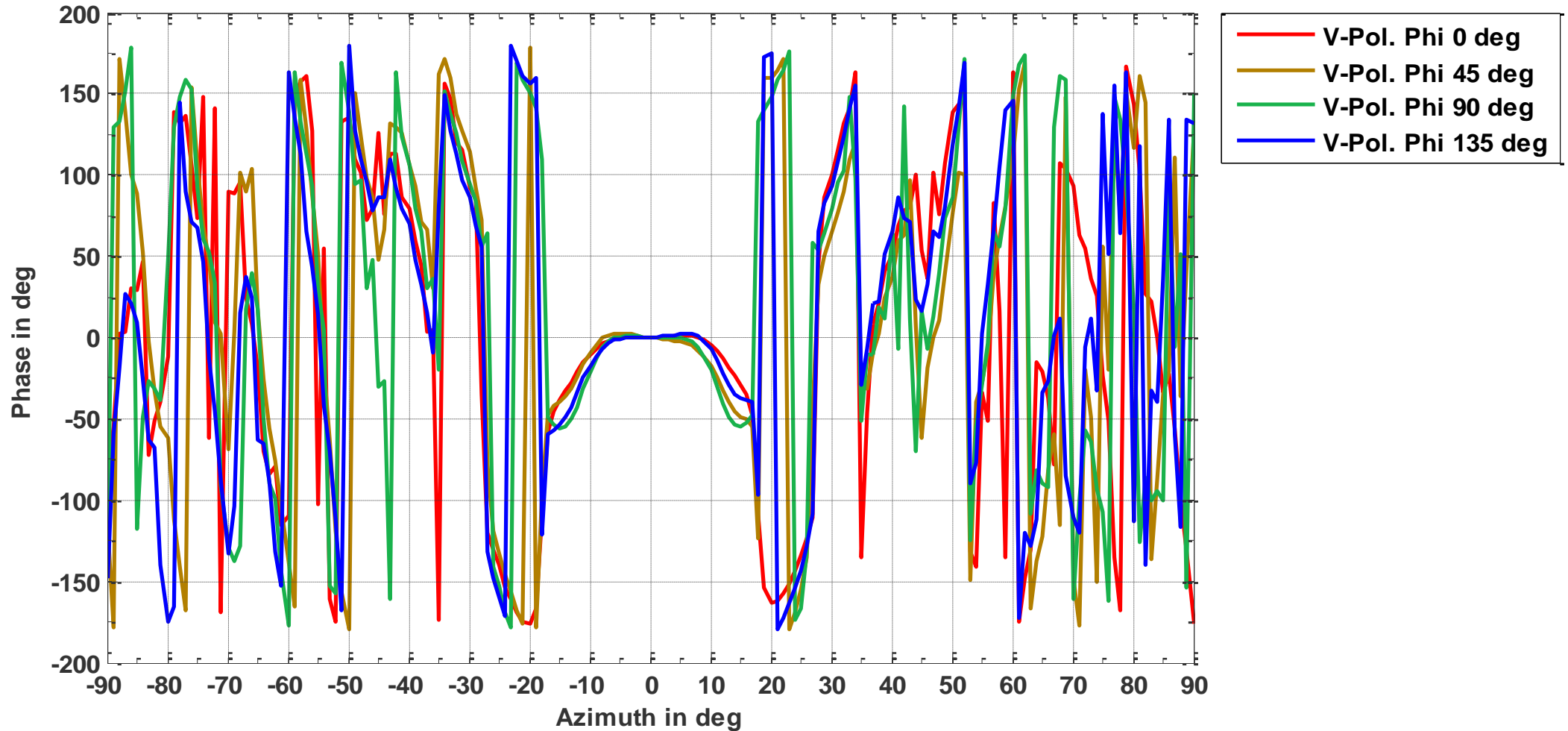Y-axis: Phase in deg

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Range Feed Pattern, G-Band, 220 GHz

G-Band (140 GHz - 220 GHz), Range Feed
Reference Pattern Measurement @ 220 GHz

Range Feed Pattern, G-Band, 220 GHz

G-Band (140 GHz - 220 GHz), Range Feed
Reference Pattern Measurement @ 220 GHz

END OF DOCUMENT

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