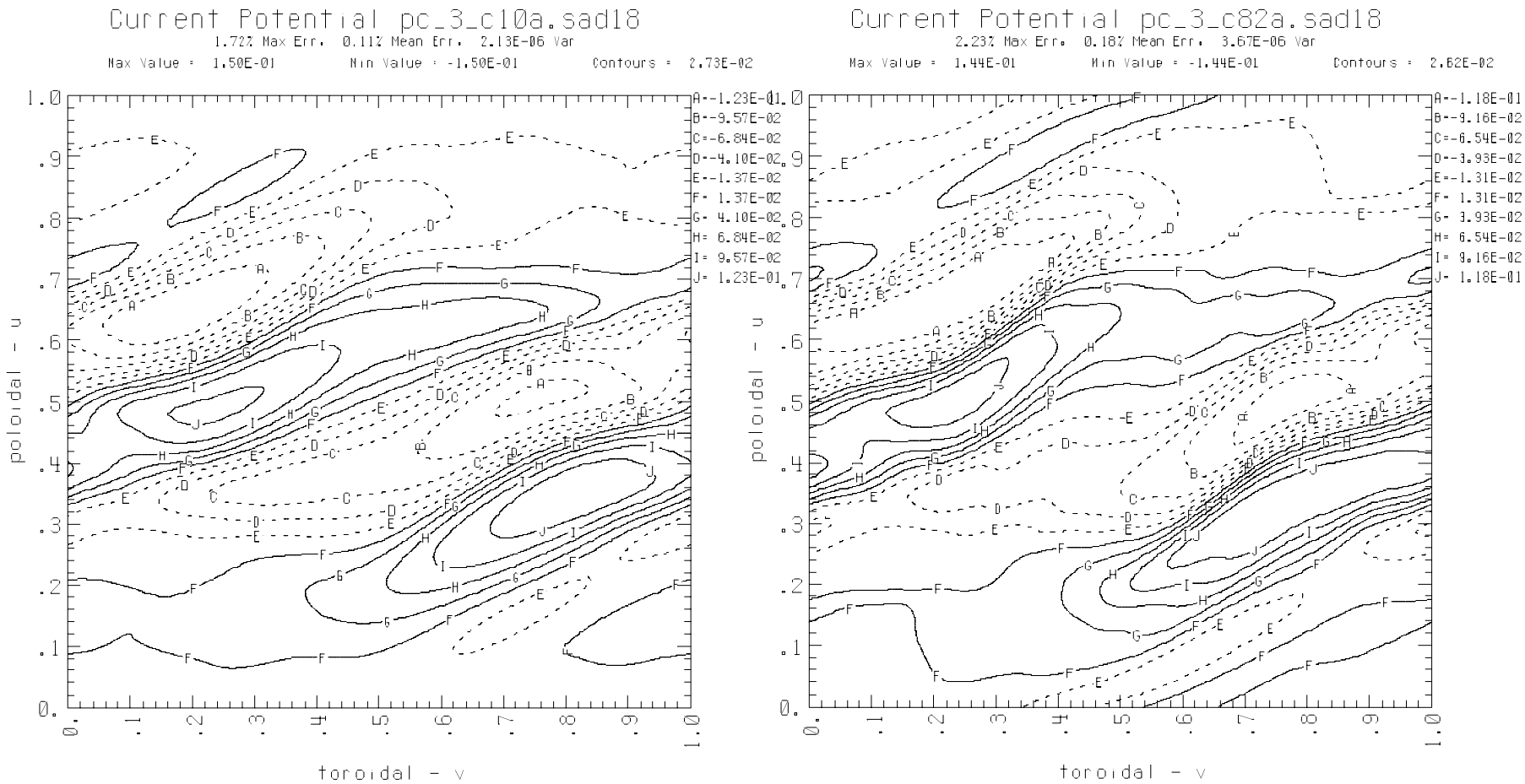
Coil Comparison for c10 and c82

Comparison of Current Sheets and Coils for Saddles on a 18 cm surface offs

	Without EF		With EF	
Plasma ID Description	c10a Fits in PBX (A=3.42)	c86a QA Improved c76a	c10a Fits in PBX (A=3.42)	c86a QA Improved c76a
Current Sheet				
Max Err, %	1.72	2.23	1.65	2.23
Mean Err, %	0.11	0.18	0.11	0.18
Ipol	2.75	2.76	2.75	2.76
J max/Ipol	0.85	1.05	0.88	1.08
J max, MA/m	**2.35**	**2.91**	**2.43**	**2.99**
J avg/Ipol	0.169	0.183	0.165	0.181
J avg, MA/m	*0.46*	*0.51*	*0.45*	*0.50*
Max Current Pot/Ipol	0.150	0.144	0.133	0.138
Complexity	2.91	3.09	2.96	3.15
Discrete Coils, 16 Contours				
Coils per Half Period	12	11	13	12
Max Err, %	2.45	2.75	2.74	2.57
Mean Err, %	0.58	0.64	0.58	0.61
Min Dist, cm	2.40	1.89	2.27	1.84
Coil Current, KA	51.66	49.63	45.61	47.35
Coil Build, cm	7.00	7.00	7.00	7.00
Current Density, KA/cm2	3.08	3.75	2.87	3.68

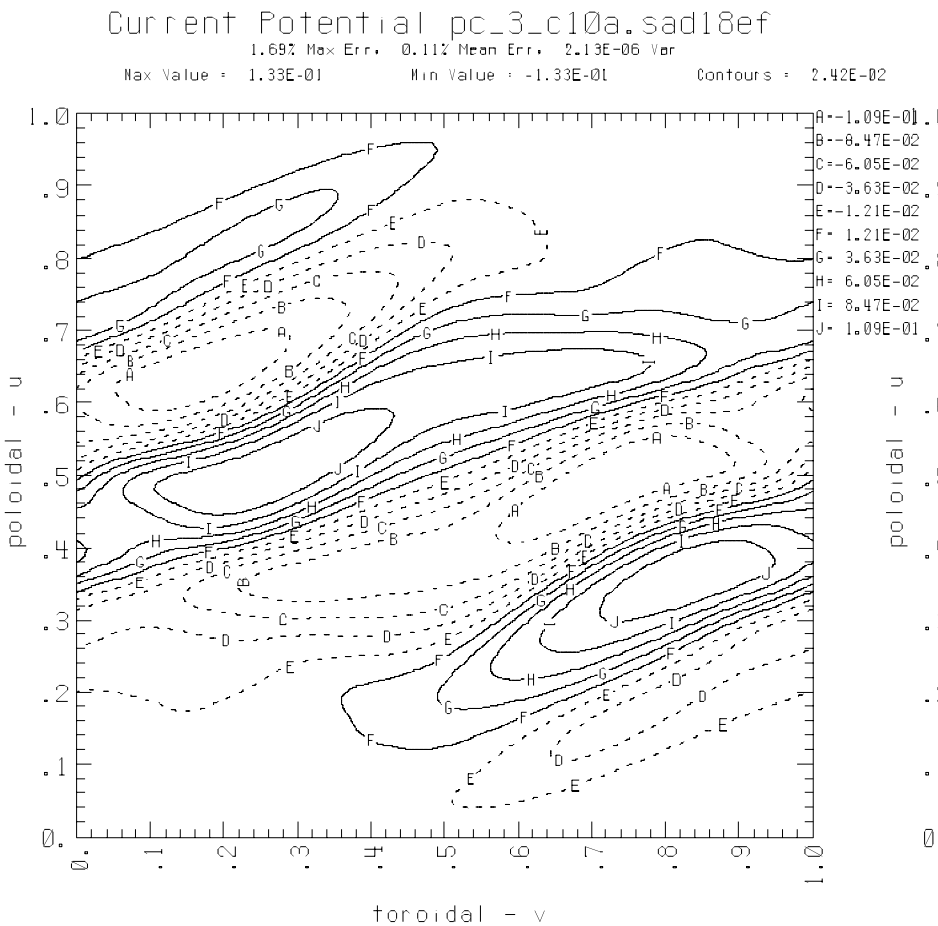
Current Sheets C10 vs C82

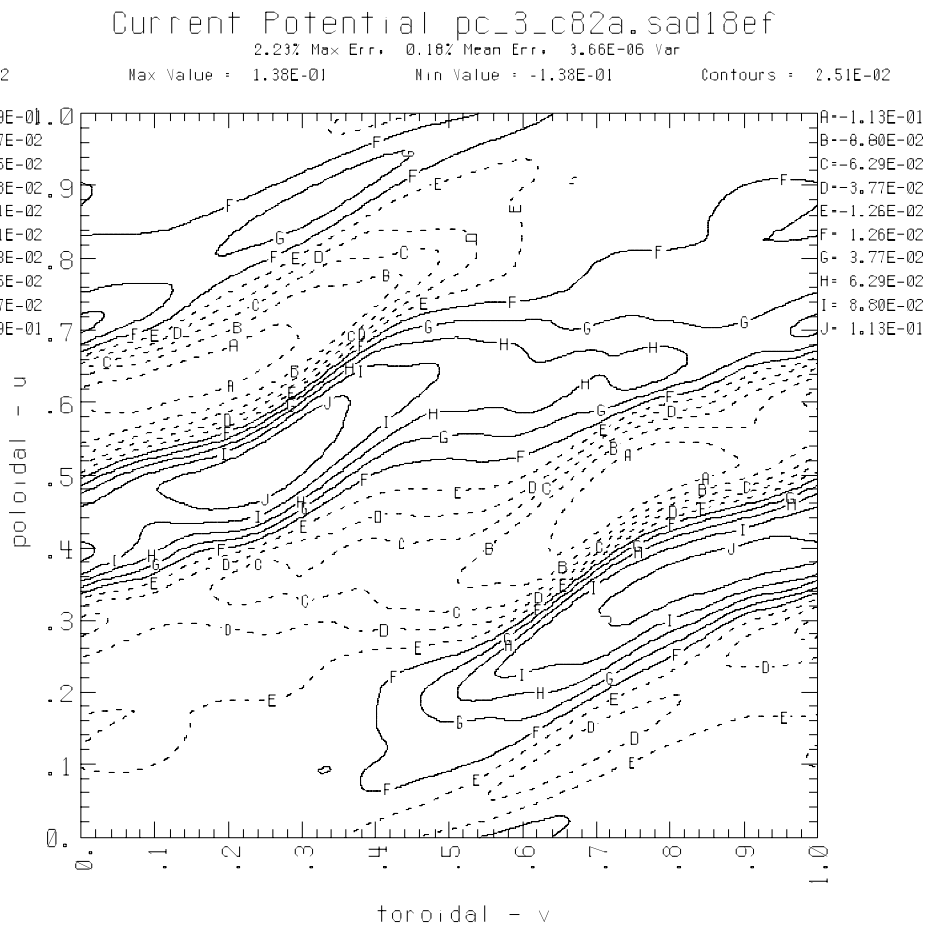
(no ef)



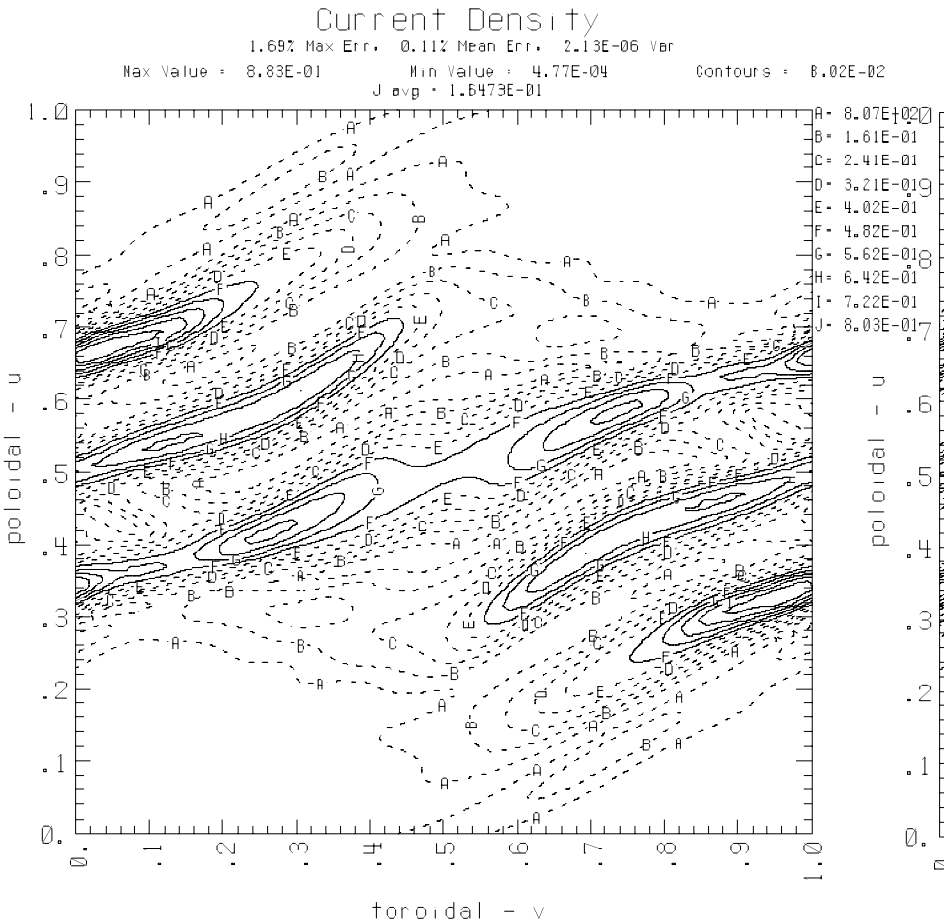
Current Sheets C10 vs C82

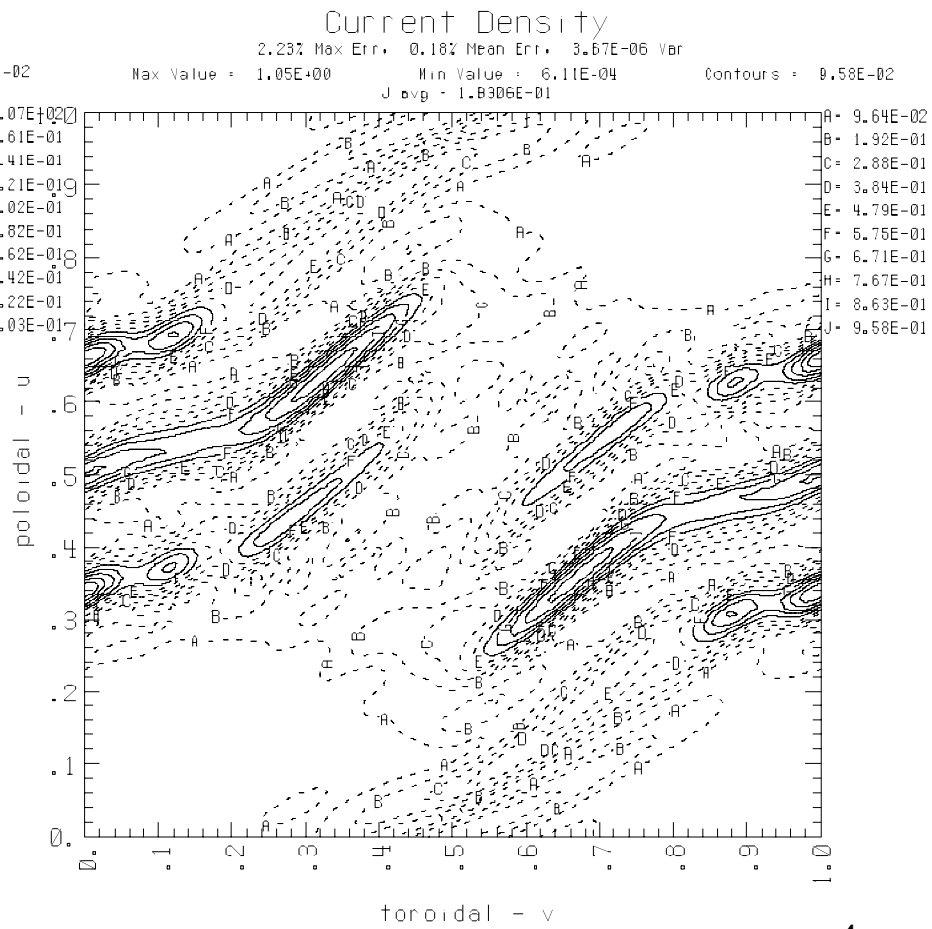
(with ef)





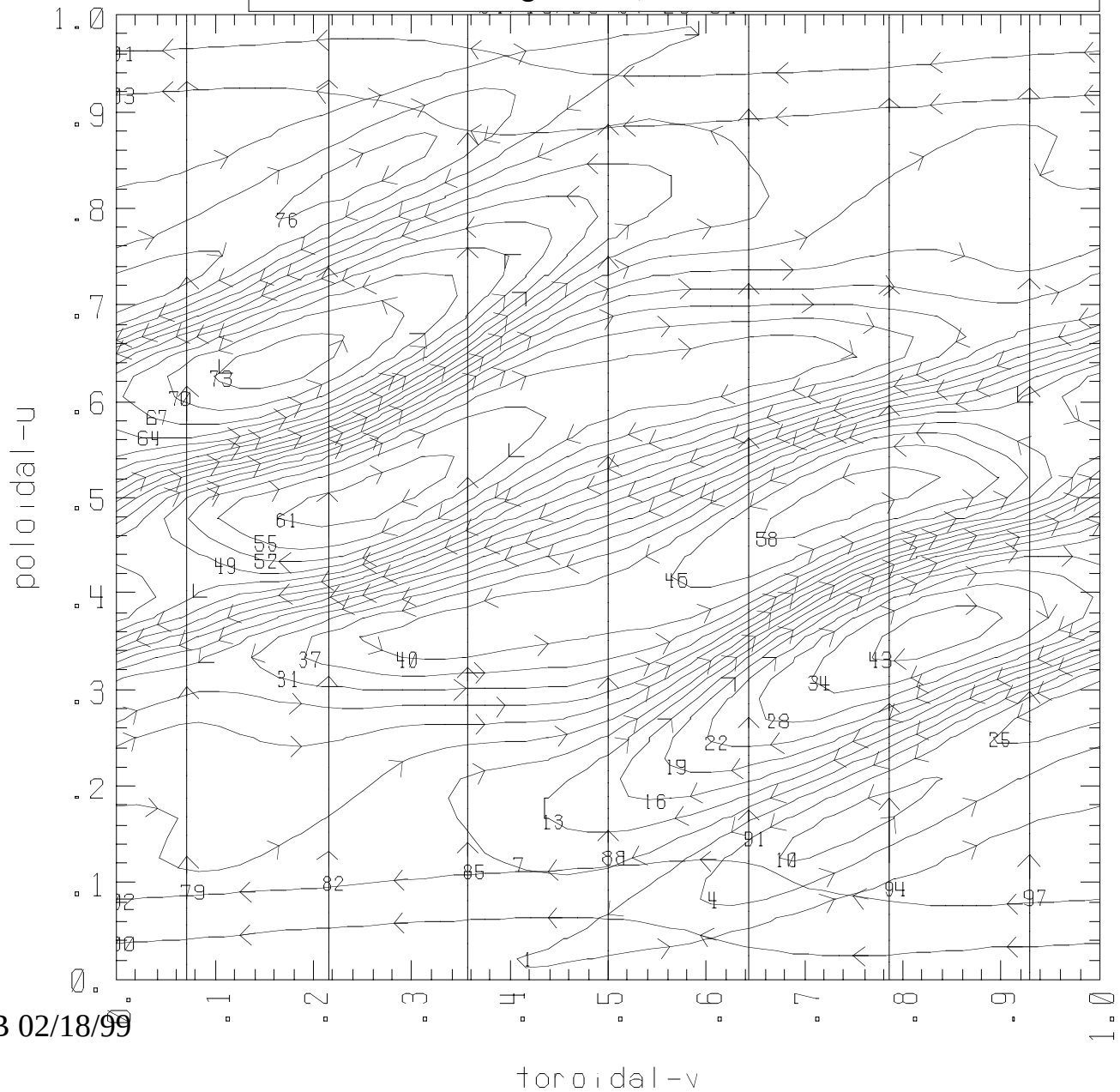
Current Density C10 vs C82





Discrete Saddle Coils for C10a: 16 contours

18 cm winding surface, 2.7% max error

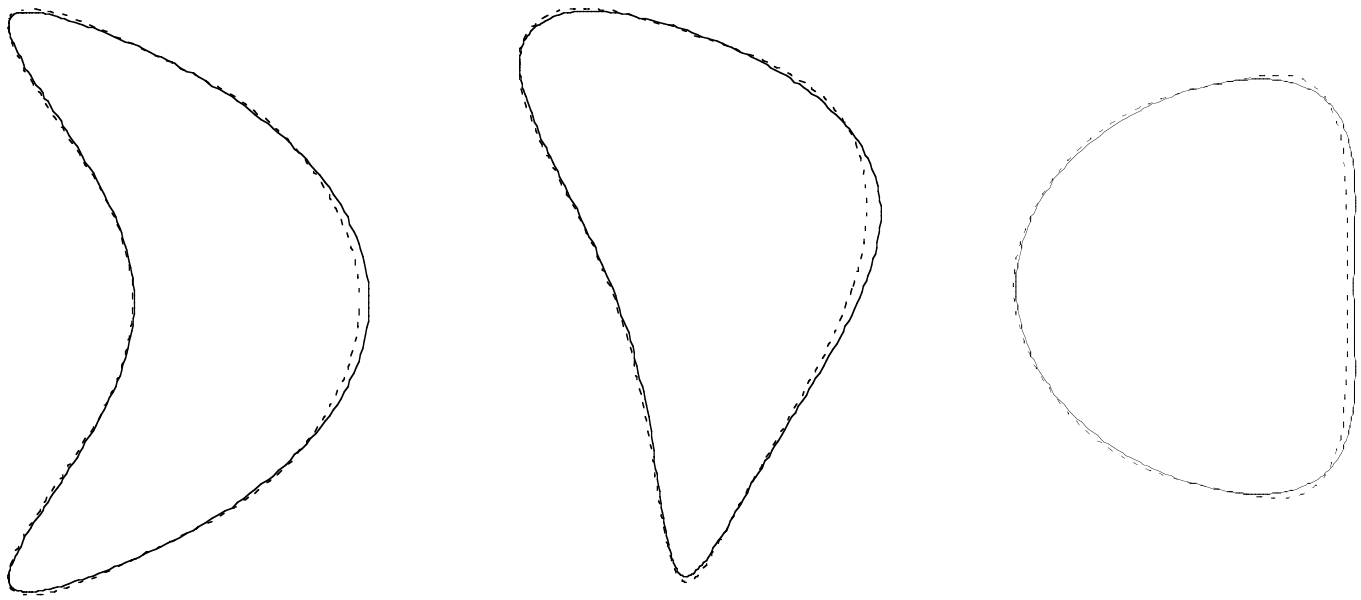


VF coils

Inboard

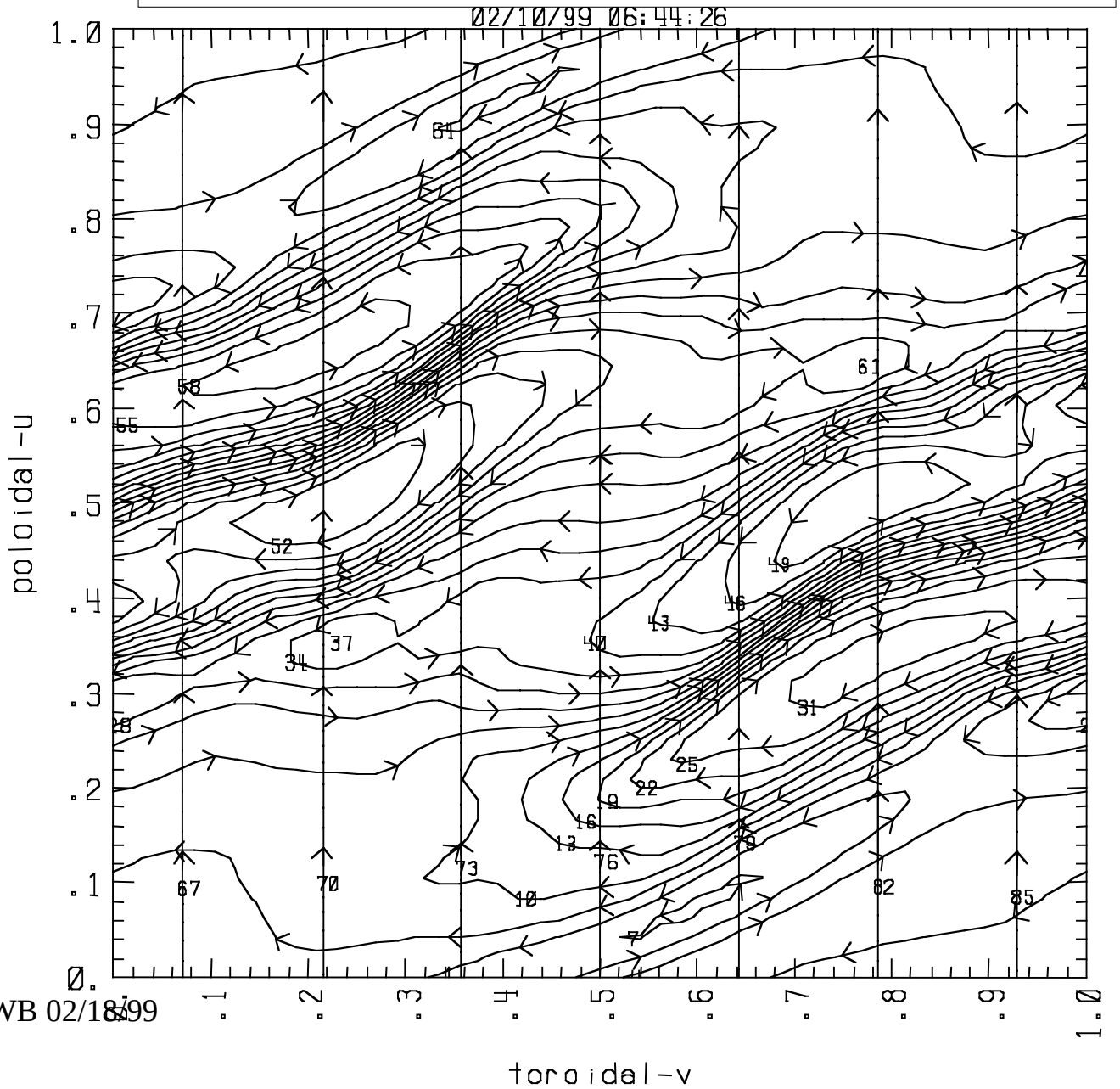
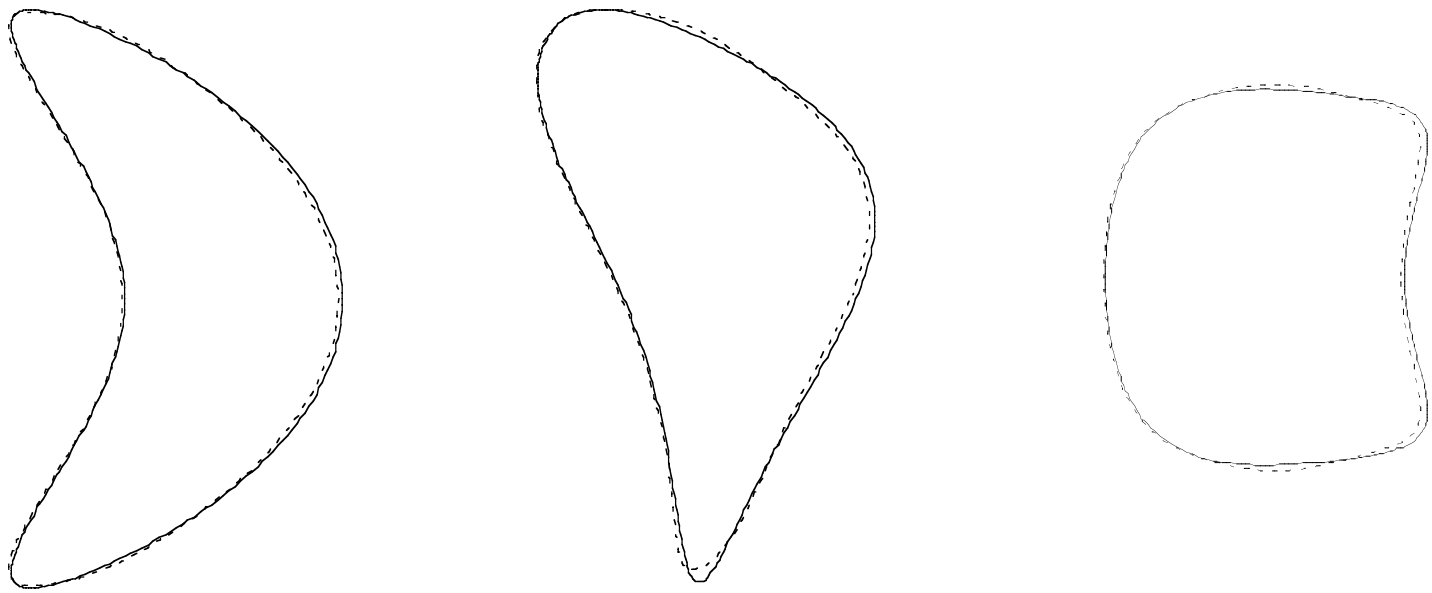
Outboard

Reconstruction of c10a
16 contours (with EF)



Discrete Saddle Coils for C82: 16 contours

18 cm winding surface, 2.75% max error



Reconstruction of c82
16 Contours (No EF)