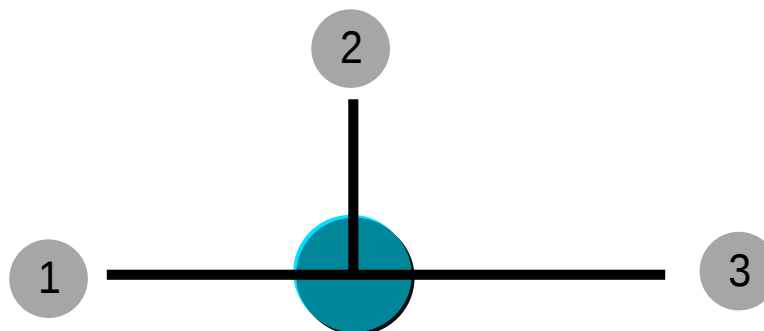




circulator A

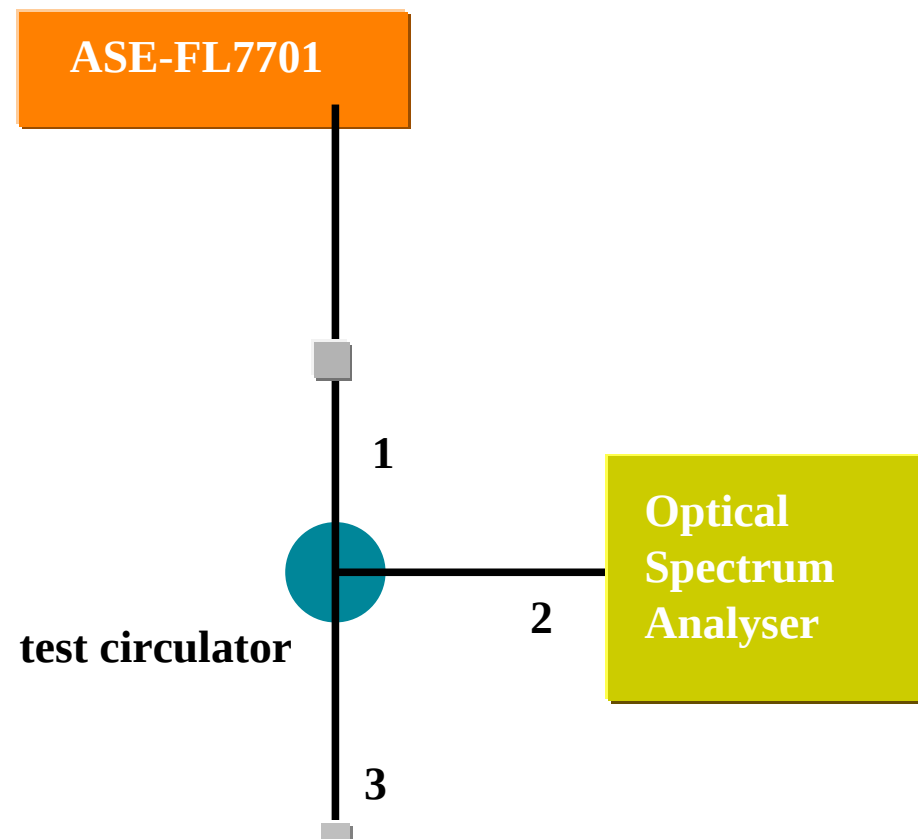


insertion loss		isolation			directivity	return loss		
→	→	→	→	→	→	→	→	→
1550nm	1550nm	1550nm	1550nm		1550nm	1550nm	1550nm	1550nm
0.4dB	0.44dB	61dB	61.4dB		61.6dB	67.7dB	65.5dB	64dB
FIGURE 1		FIGURE 2			FIGURE 3	FIGURE 4		



Measurement System

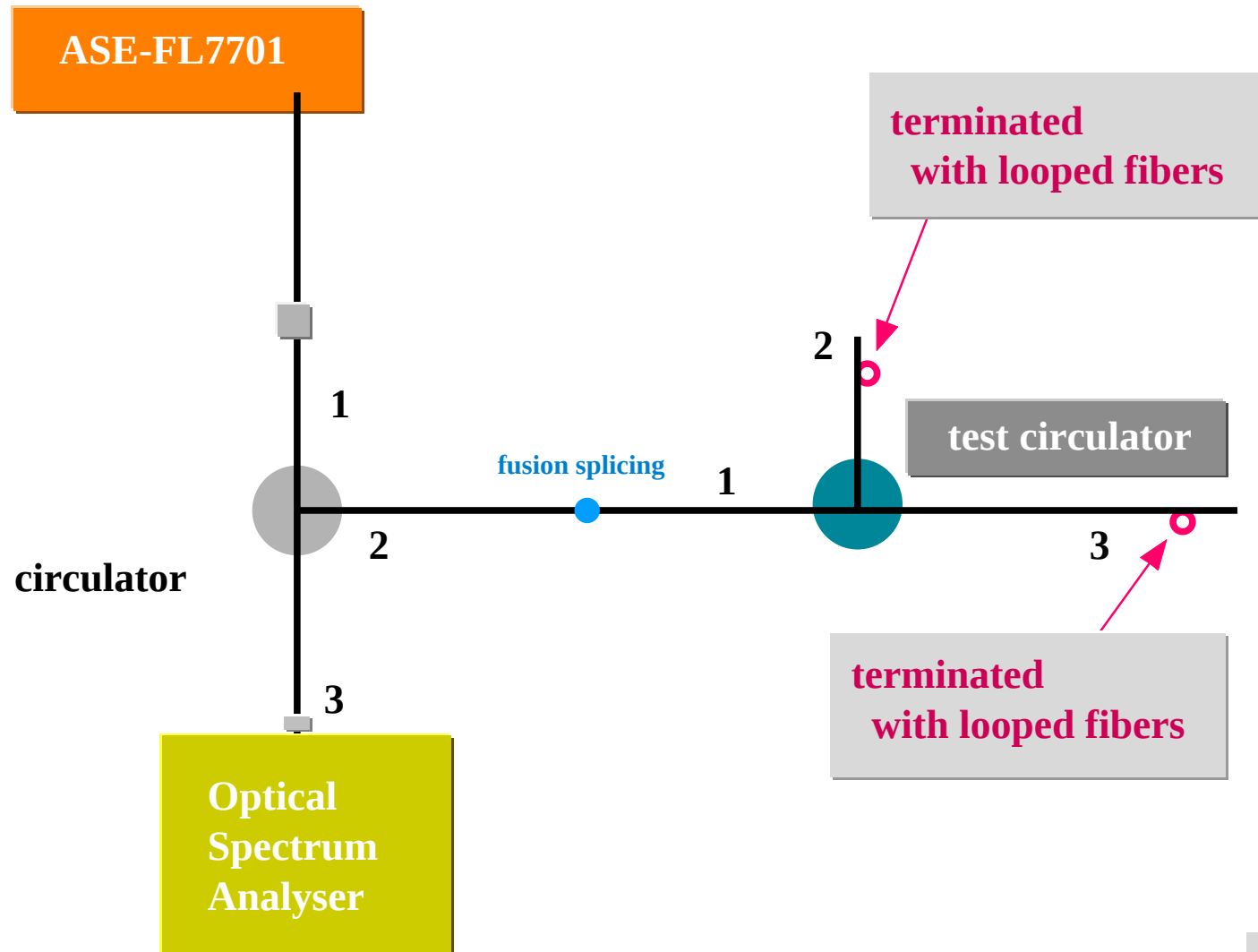
insertion loss, isolation, directivity





Measurement System

return loss

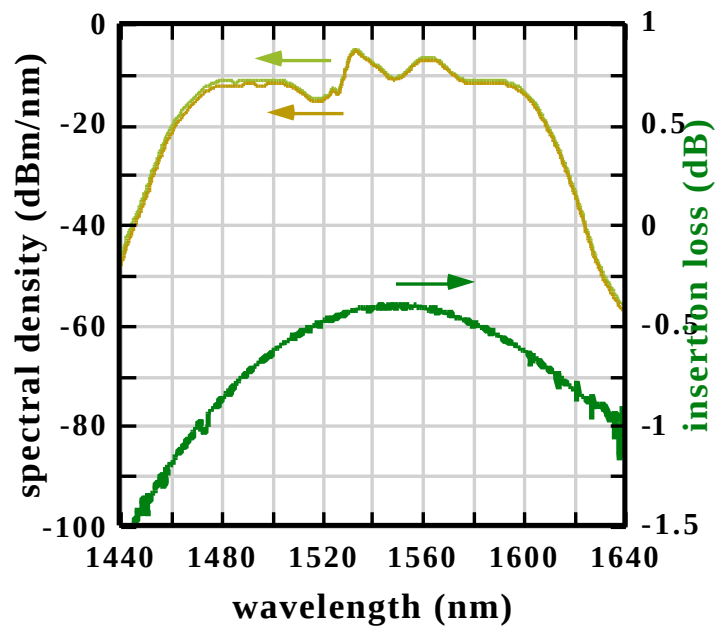




circulator A

insertion loss

1 → 2



2 → 3

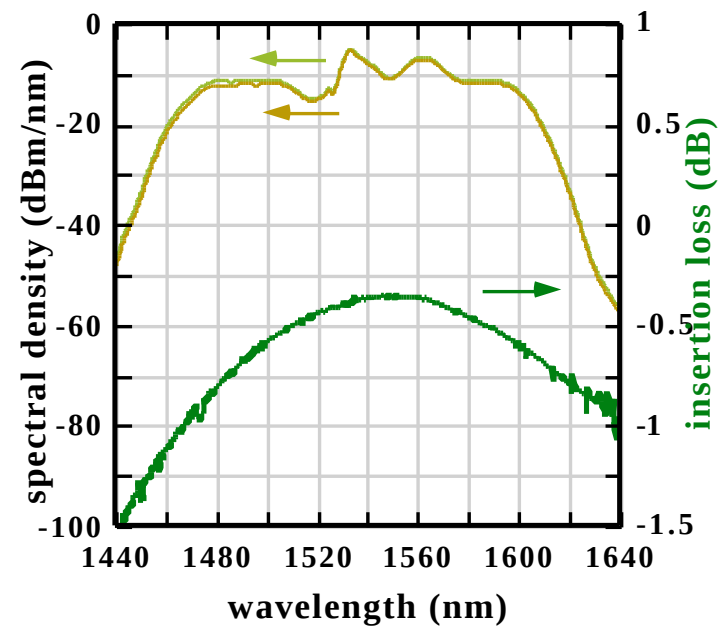
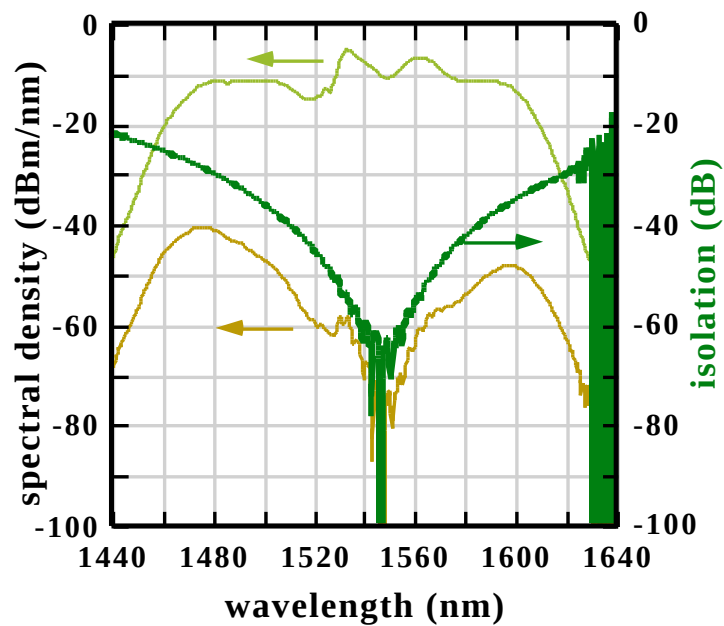


FIGURE 1

circulator A

isolation

2 → 1



3 → 2

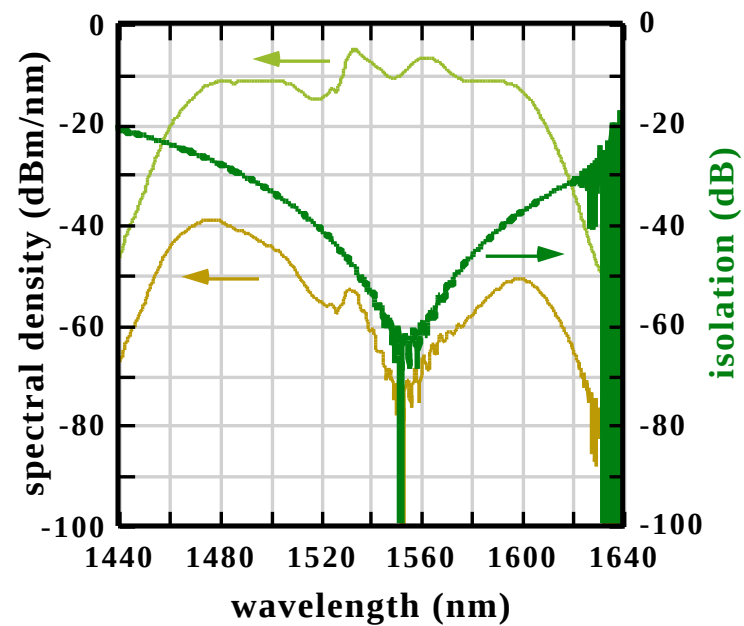


FIGURE 2

circulator A

return loss

1 → 1

2 → 2

3 → 3

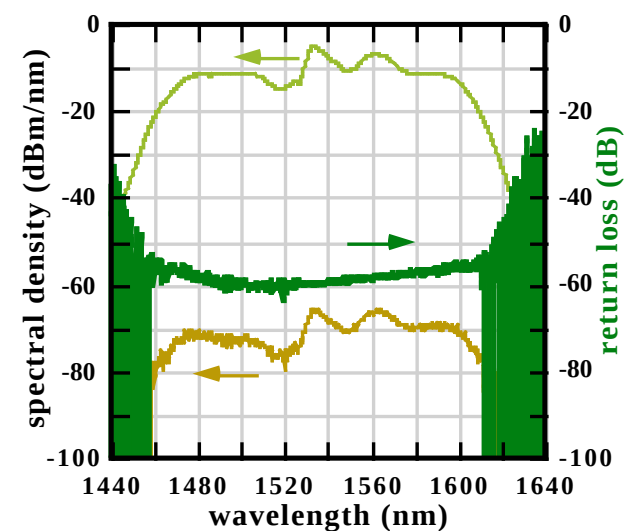
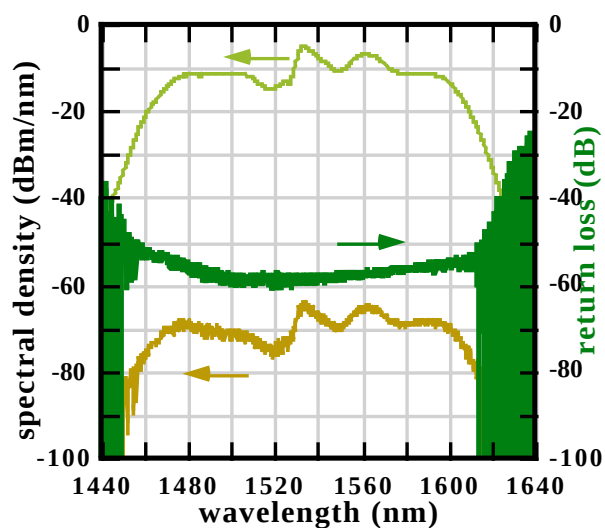
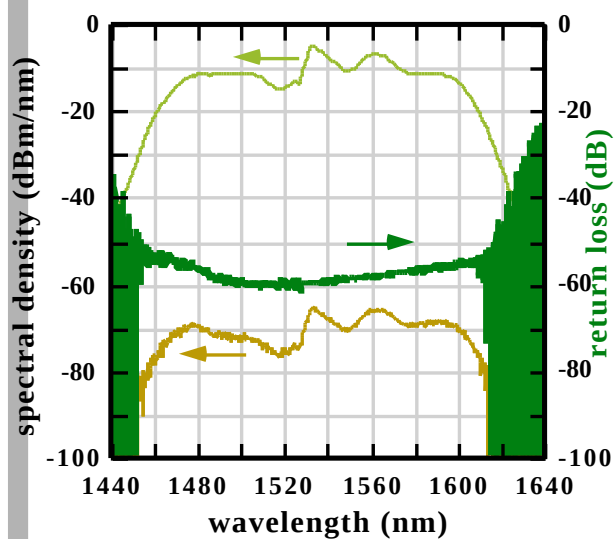


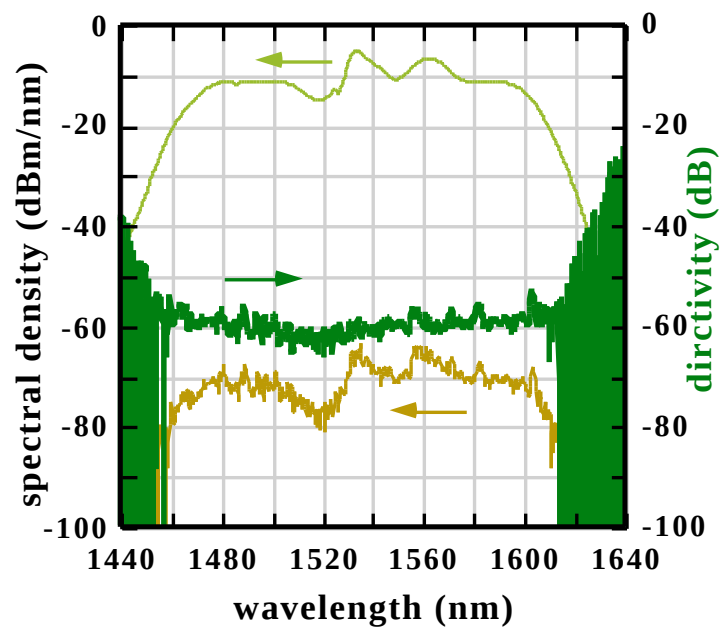
FIGURE 4



circulator A

directivity

1 → 3



3 → 1

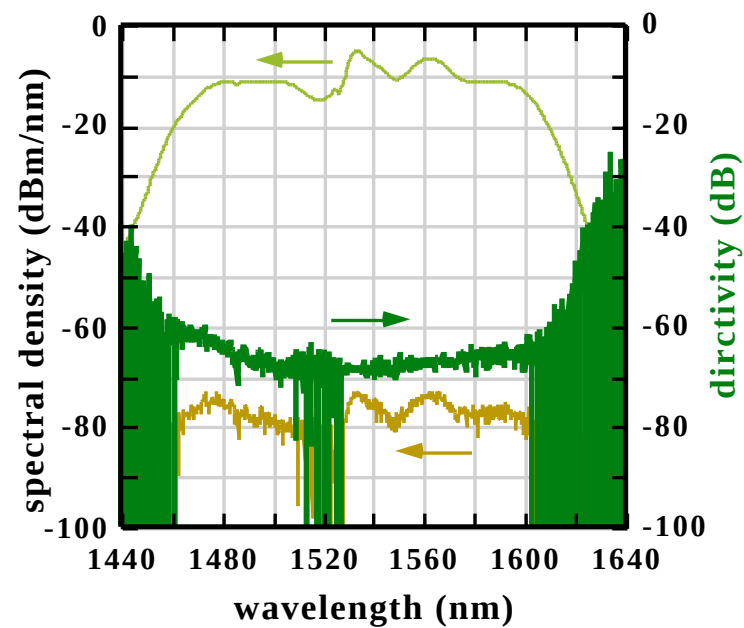
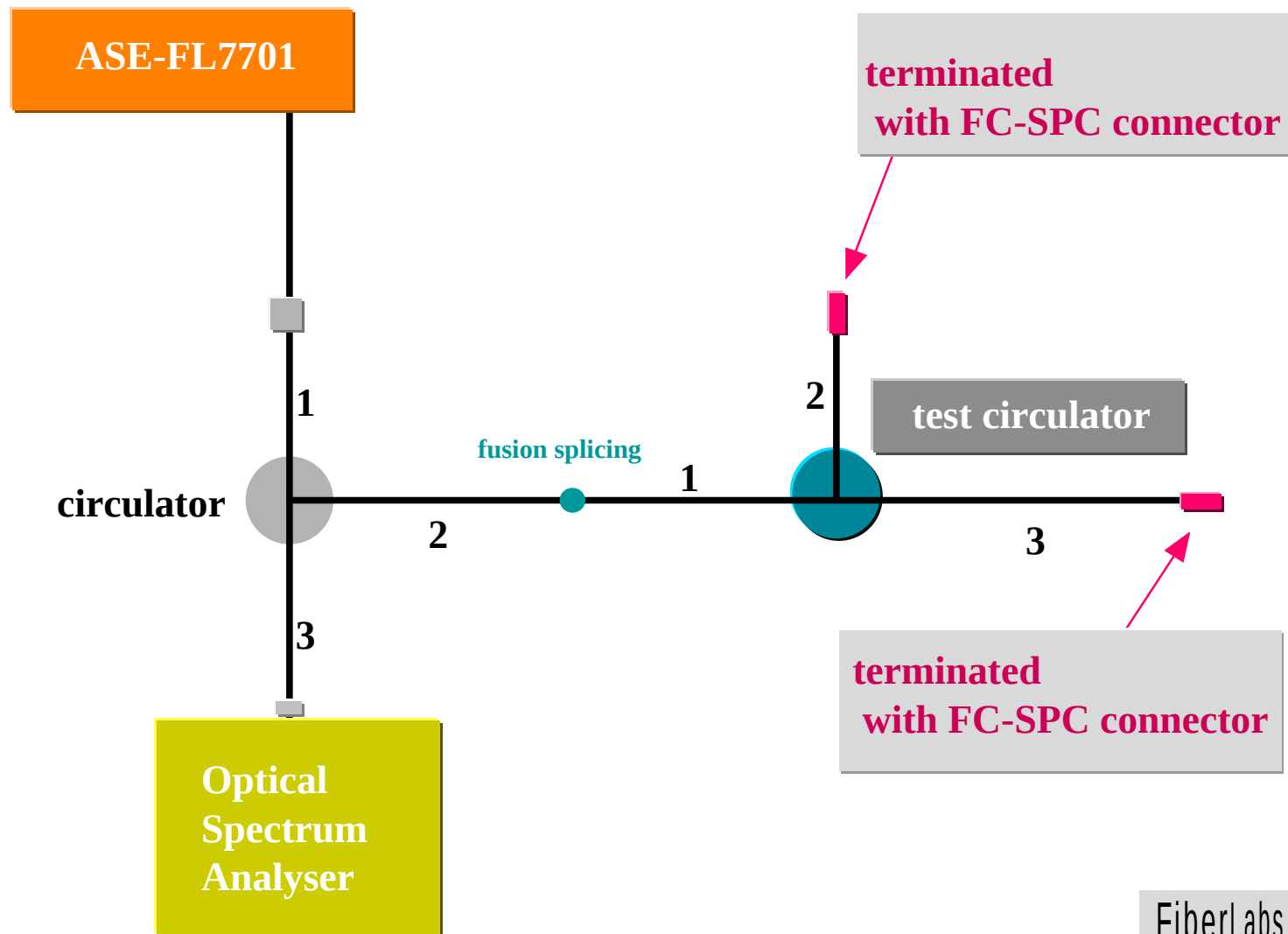


FIGURE 3



Measurement System

return loss

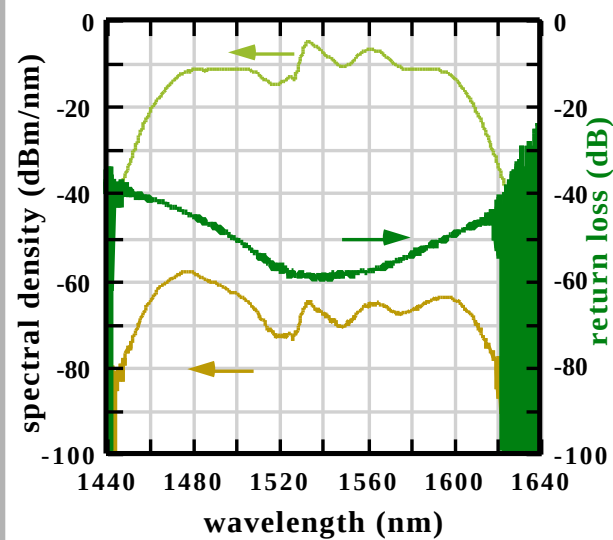




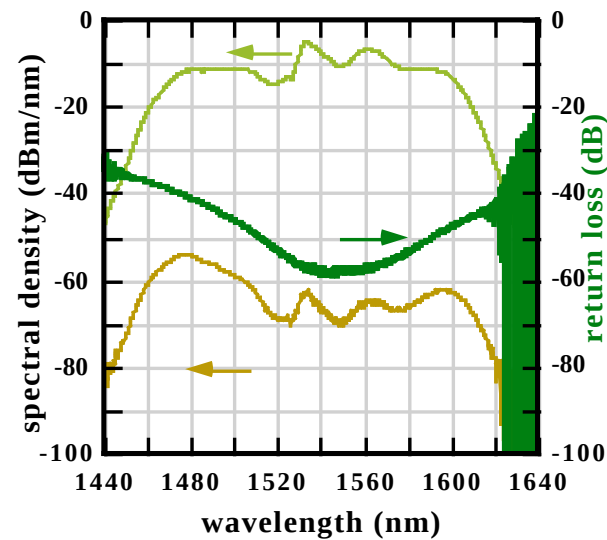
circulator A

return loss

1 → 1



2 → 2



3 → 3

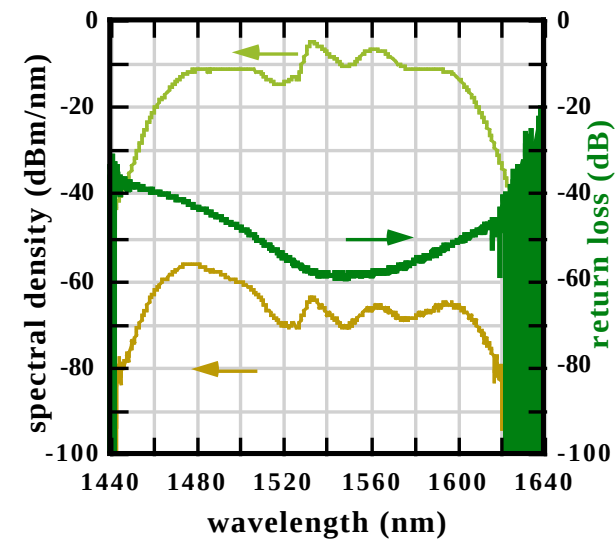


FIGURE 4-2