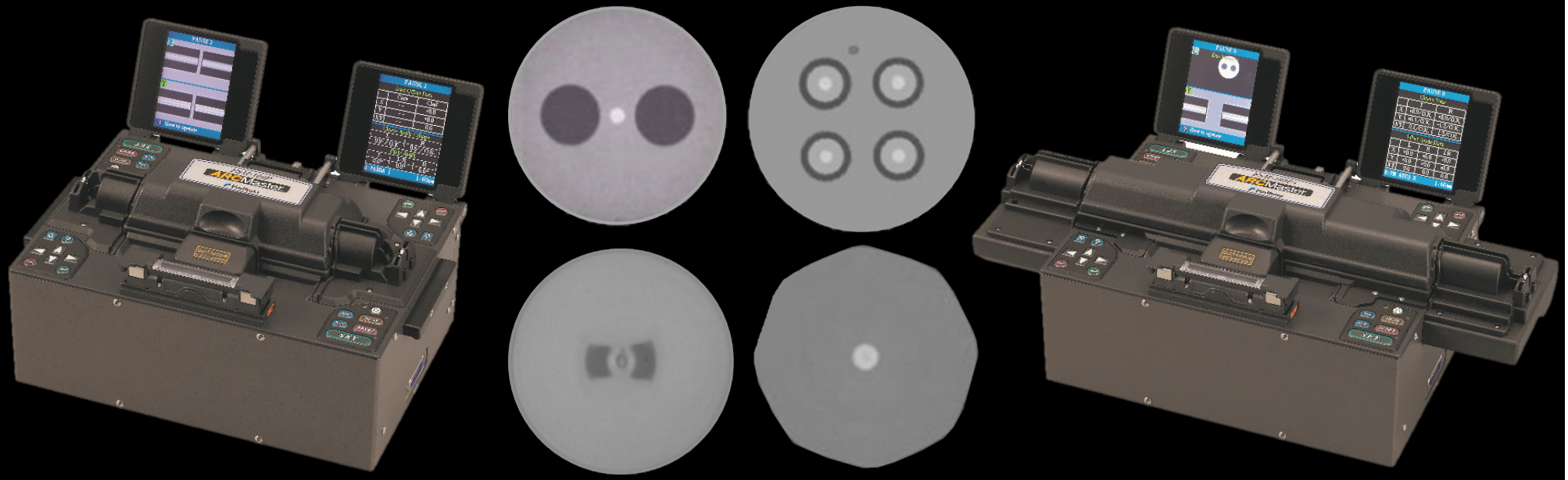
Specialty Fiber Fusion Splicer FSM-100P/P+

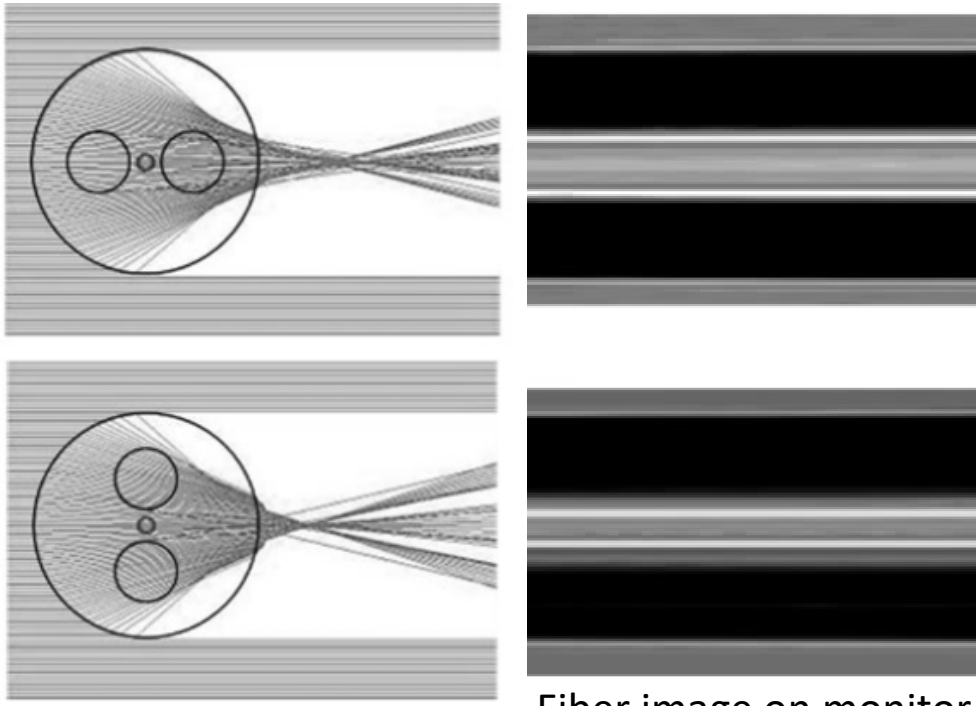
New Added Observation Method For Fiber Rotational Alignment



Improving on Proven Technology

Observation Method for Fiber Rotation Alignment

Side View



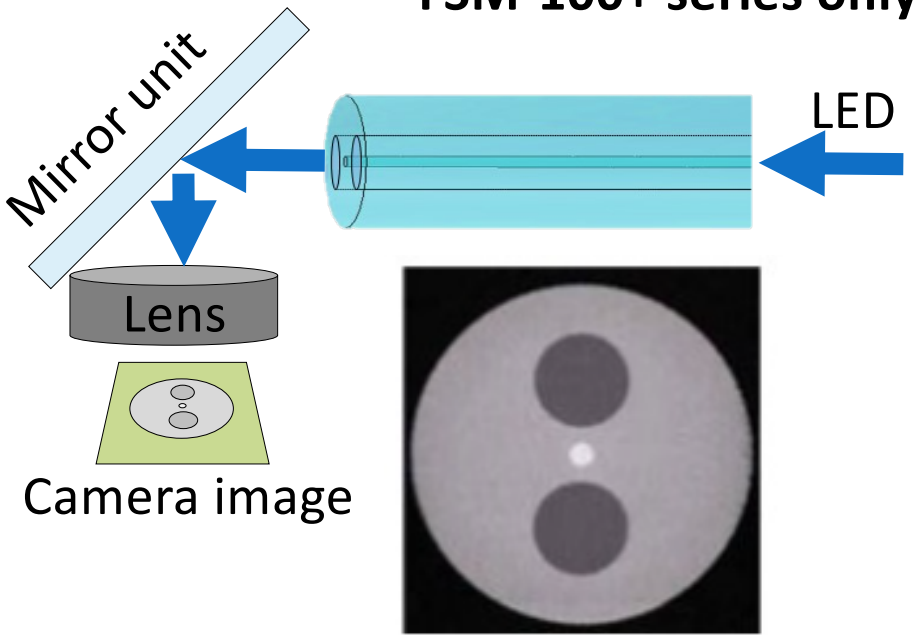
Fiber image on monitor

2 type of theta alignment method

Panda / IPA mode

End View

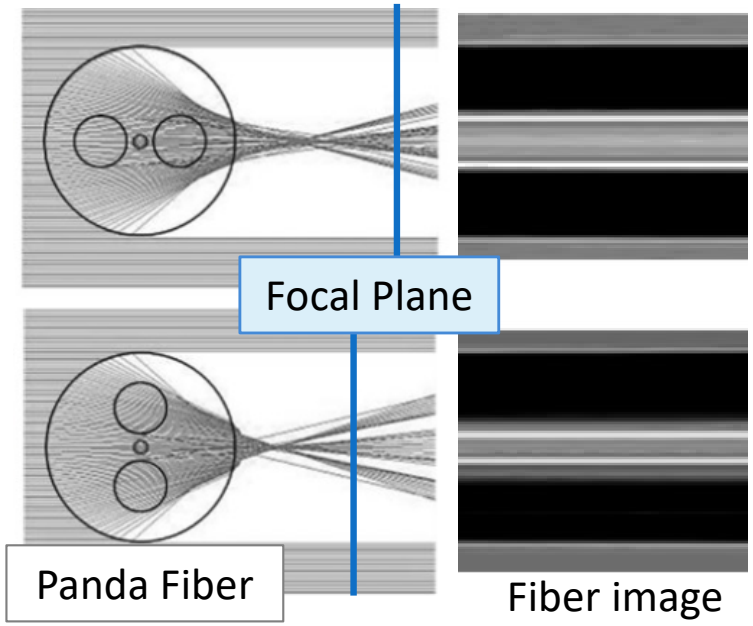
FSM-100+ series only



Insert illumination LED and observe the fiber end face

Observation Method for Fiber Rotation Alignment

Panda Mode



Matching with Panda fiber brightness data

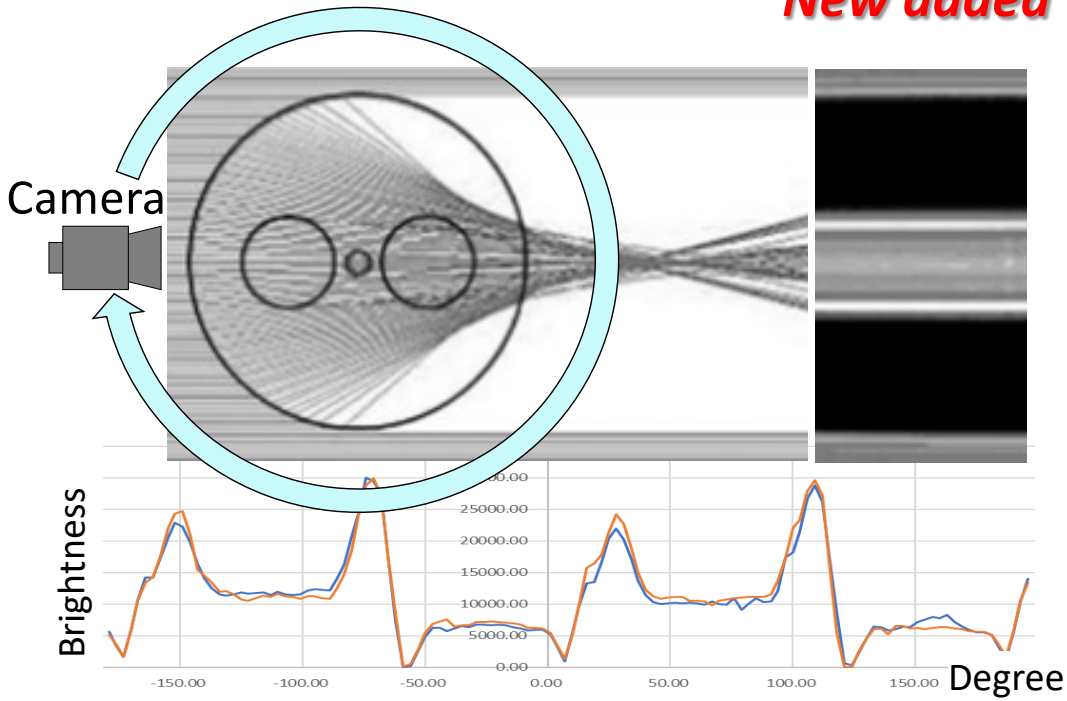
IPA Mode

IPA

IPA2

New added

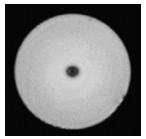
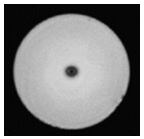
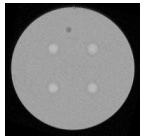
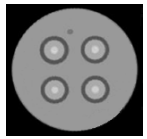
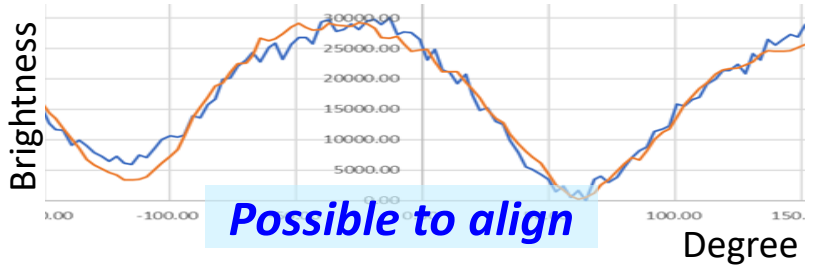
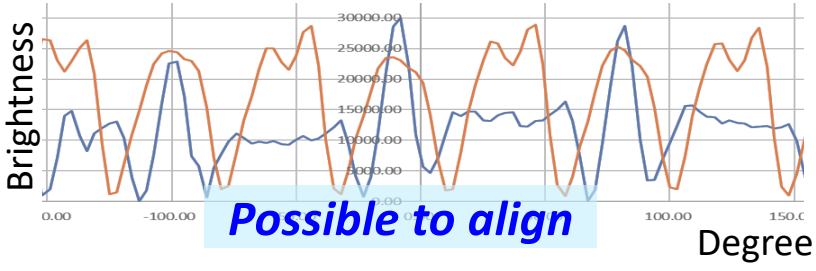
Interrelation Profile Alignment



Profiling from brightness data for each degree and matching the interrelation of L-R fibers

Fujikura

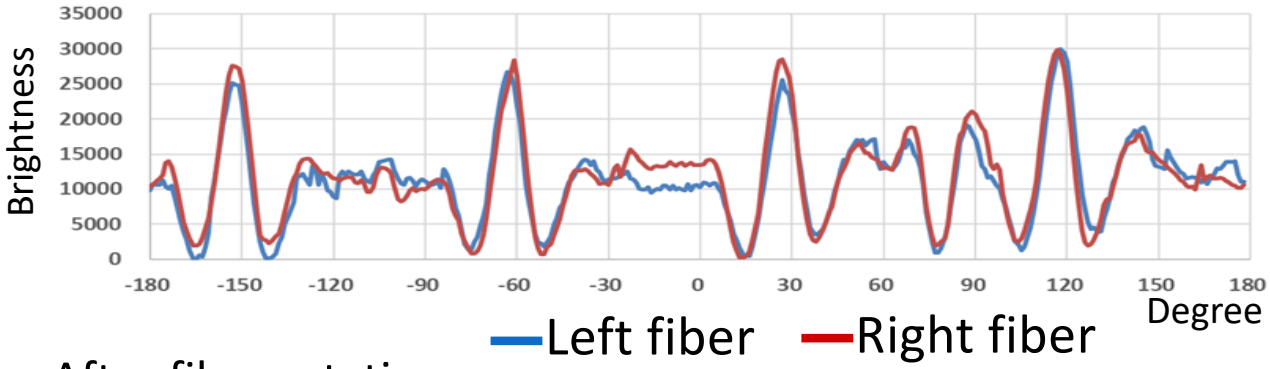
Comparison of IPA and IPA2 data profile

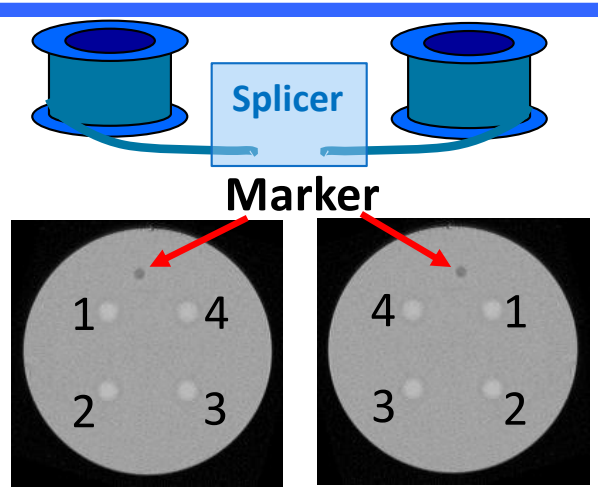
	Elliptical core fiber	Multicore fiber
	 L = R  Left fiber Right fiber	 L ≠ R  Left fiber Right fiber
IPA		
New IPA2		

IPA2 provides noise reduced profile data compared to IPA. This makes it possible to distinguish the small differences in fiber structure.

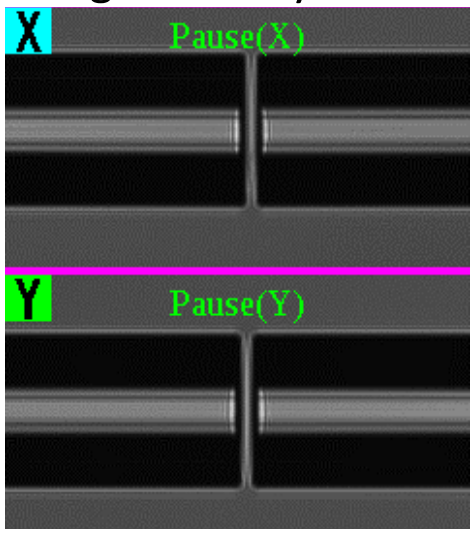
IPA2 alignment and splicing for MCF

MCF Rotation Alignment

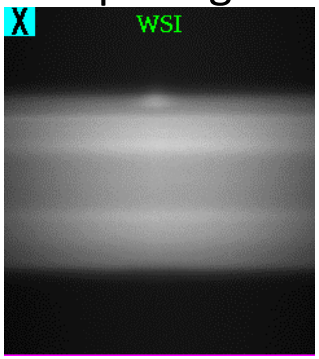




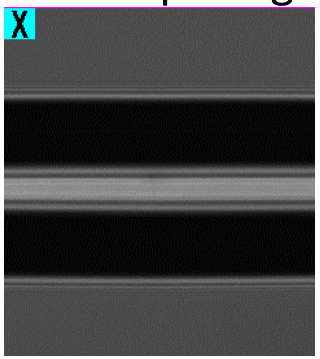
After fiber rotation alignment by IPA2



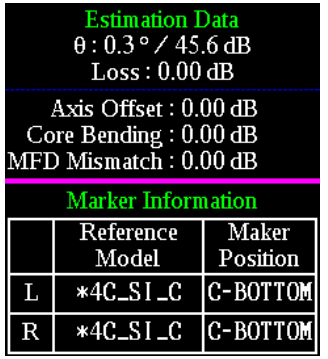
Splicing



After Splicing

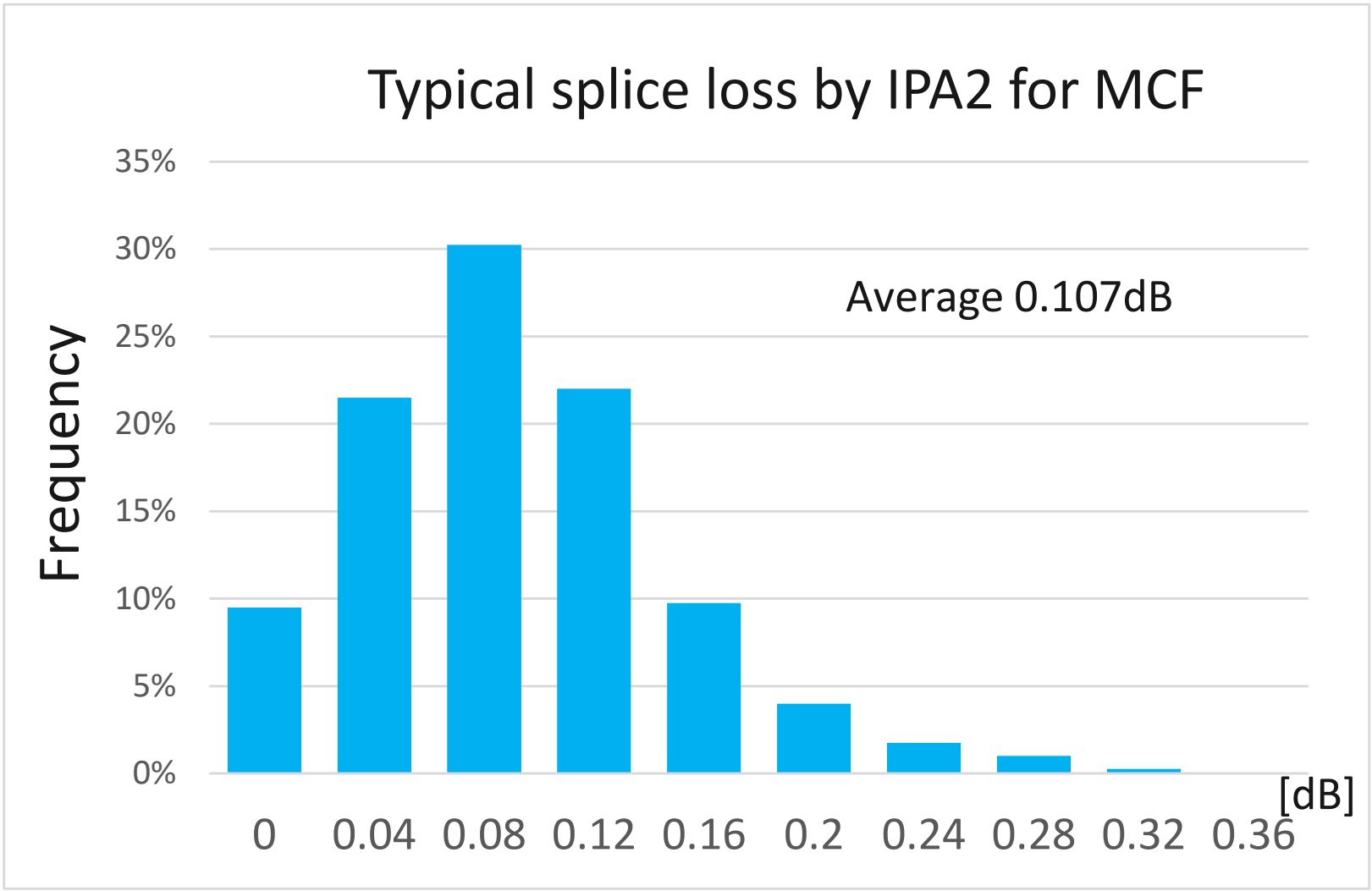


Estimated Result



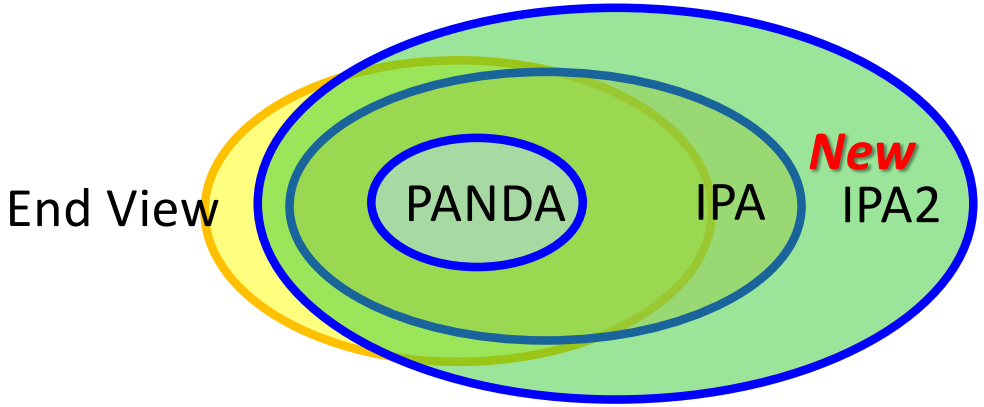
IPA2 is capable of determining the orientation and alignment of not only the fiber cores but also a marker in fiber.

IPA2 alignment and splicing for MCF



Comparison table 1

Alignment mode	View Image	Applicable Model	Applicable Fiber
PANDA	Side View	FSM- 100P/P+	Specialized for Panda
IPA			Covering many type of fibers
New IPA2			
End View	End View	FSM- 100P+ only	Covering many type of fibers



Covering image of each alignment mode

Comparison table 2

Fiber Type \ Align Method	Fiber End	PANDA, Bow-tie	IPA	New IPA2	End View	
					Auto	Manual
PANDA Fiber (Tested with Fujikura Panda Fiber)		🟢	🟢	🟢	🟢	🟢
Bow-tie Fiber		🟡	🟢	🟢	🟢	🟢
Elliptical-core Fiber		🔴	🟡	🟢	🔴	🔴
Multicore Fiber		🔴	🟡	🟢	🟡	🟢
Octagonal Fiber		🔴	🟡	🟢	🟡	🟢
PCF Fiber		🔴	🔴	🔴	🟡	🟢

IPA2 can cover wider range of specialty fibers !

🟢 Generally applicable
🟡 Partially confirmed
🔴 Not applicable

Fujikura