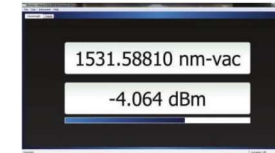
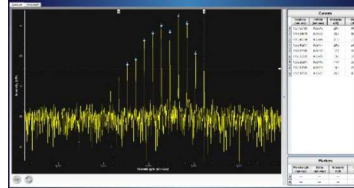
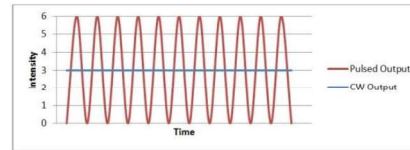


# Instrument Selection.....

1)  $\lambda$  and/or Spectrum



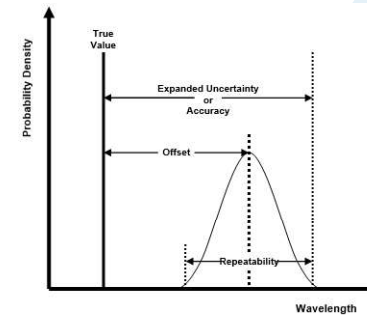
2) Laser Type



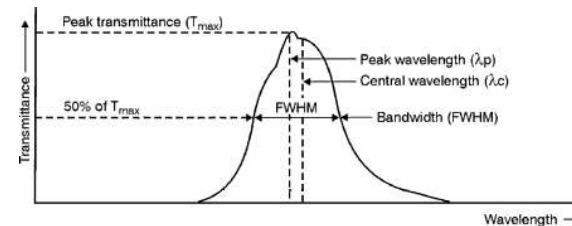
3) Wavelength Region



4) Measurement Accuracy



5) Bandwidth



## Wavelength and/or Spectrum?

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### 1) $\lambda$ and/or Spectrum



*671 Series*



*771 Series*



*871 Series*



# Specification Discussion

## 2) Type of laser being measured

	 <b>671</b>	 <b>871</b>	 <b>771</b>
Continuous Wave (CW)	✓	✓	✓
Quasi-CW <i>(rep rate &gt; 10 MHz)</i>	✓	✓	✓
Pulsed	✗	✓	✓ <i>(50 ns, &gt; 50 kHz)</i>

# Specification Discussion

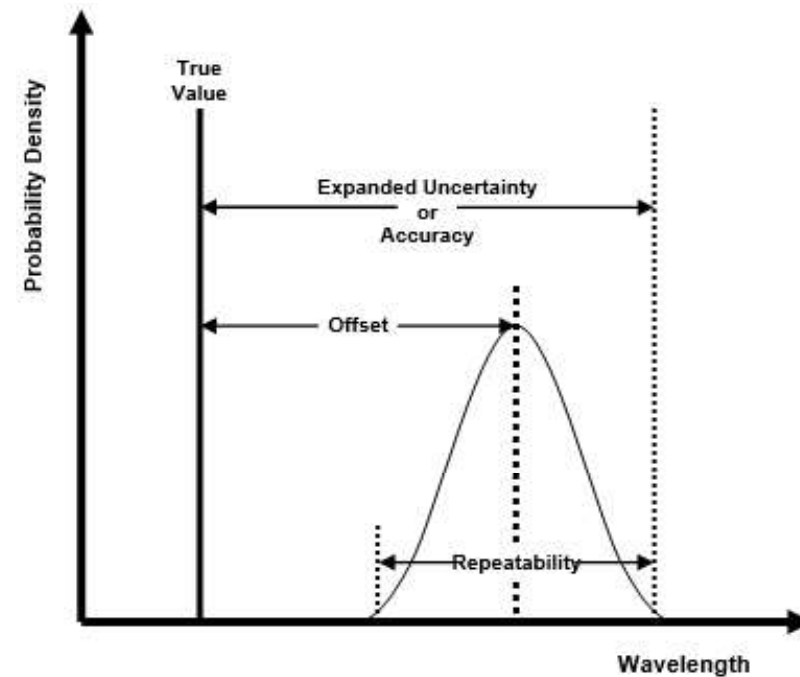
## 3) Wavelength Region

			
	<b>671</b>	<b>871</b>	<b>771</b>
VIS (375-1100 nm)	✓	✓	✓
NIR (520-1700 nm)	✓	✓ (630-1700 nm)	✓
NIR2 (1-2.5 μm)	✗	✓	✗
MIR (1-12 μm)	✓	✗	✓ (up to 14 μm)

## Specification Discussion

### 4) Accuracy

- Systematic effects result in an offset between the true value and the mean of the measurements.
- Random effects result in measurements that have a statistical distribution associated with short-term measurement repeatability.



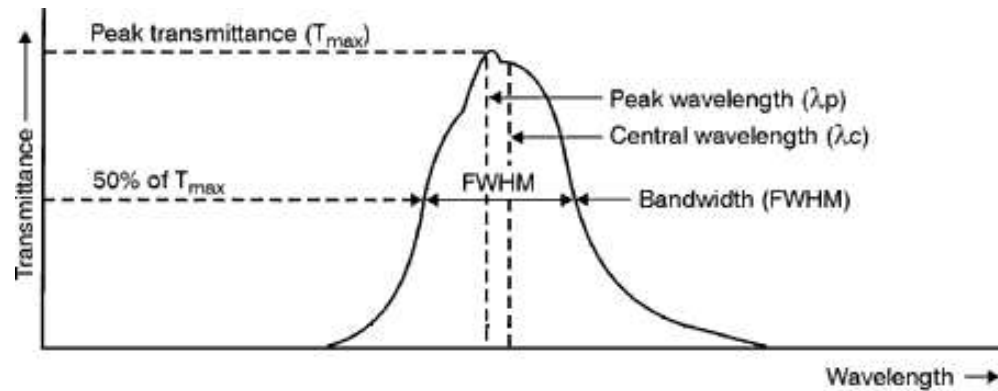
## Specification Discussion

### 4) Accuracy is wavelength dependent

		Wavelength			
		<b>0.5 <math>\mu\text{m}</math></b>	<b>1 <math>\mu\text{m}</math></b>	<b>5 <math>\mu\text{m}</math></b>	<b>12 <math>\mu\text{m}</math></b>
Product Version	<b>A</b> ( $\pm 0.2$ ppm)	$\pm 0.1$ pm	$\pm 0.2$ pm	$\pm 1.0$ pm	$\pm 2.4$ pm
		$\pm 120$ MHz	$\pm 60$ MHz	$\pm 12$ MHz	$\pm 5$ MHz
	<b>B</b> ( $\pm 1.0$ ppm)	$\pm 0.5$ pm	$\pm 1.0$ pm	$\pm 5.0$ pm	$\pm 12.0$ pm
		$\pm 600$ MHz	$\pm 300$ MHz	$\pm 60$ MHz	$\pm 25$ MHz

## Specification Discussion

### 5) Source Bandwidth



Instrument	Grade	Max FWHM BW (to guarantee $\lambda$ accuracy)
671	A	1 GHz
871	B	10 GHz
771		

# Final Configurations

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		VIS	NIR	NIR2	IR	MIR
671	A	✓	✓	✗	✓	✓
	B	✓	✓	✗	✓	✓
871	A	✓	✓	✗	✗	✗
	B	✓	✓	✓	✗	✗
771	A	✓	✓	✗	✓	✓
	B	✓	✓	✗	✓	✓