Key performance metrics

Performance metric	StarLight	TPF Planet-finding	TPF Astrophysics	StarLight Technology	TPF need
1 Wavelength band (fringes)	600 - 1000 nm	7 - 20 μm	3 - 30 μm		
2 Baselines	30 - 125 m *	75 - 200 m	75 - 1000 m	2-spacecraft parabolic geometry	angular resolution for astrophysics
3 Separation	40 - 600 m *	25 - 70 m	25 - 330 m		
4 Range control (+/-)	10 cm *	5 cm	5 cm	AFF sensor, angular metrology, formation-flying algorithms, low impulse thrusters	sizes delay lines
5 Bearing control (+/-)	4 arcmin *	1 arcmin	0.2 arcmin		
6 Range knowledge (1 σ)	2 cm	1 cm	1 cm	AFF sensor	formation control ; fringe search limiting magnitude; delay line range
7 Range rate knowledge (1 σ)	< 1 μm / s	35 μm / s	1 μm / s	Dual target linear metrology system	
8 Inertial Bearing knowledge (1 σ)	10 arcsec	10 arcsec	2 arcsec	Angular metrology system	
9 Bearing rate knowledge (1 σ)	30 milliarcsec / s	40 milliarcsec / s	0.2 milliarcsec / s	Angular metrology system	
10 Path length stabilization (1 σ)	35 nm	3.5 - 70 nm	70 nm	Dual target linear metrology system	nulling
11 Tip/tilt stabilization (1 σ)	0.1 λ/D	0.025 λ/D	0.05 λ/D	Angular metrology system, distributed control loops	nulling

* nominal performance; limits to be pushed on orbit