

	Parameter	Requirement	Expectation for SR1	Future Goal
TLR3	Axion field coupling to RC (power)	90%	90%	98%
	<i>Spatial overlap</i>	95%	95%	99%
	Angular alignment of eigenmodes	99%	99%	99.5%
	Transversal alignment of eigenmodes	96%	96%	99.5%
	<i>frequency/length coupling</i>	95%	95-99%	99%
	dynamic phase noise	96%	96-99%	99%
	slow frequency fluctuations	99%	99%	99.9%
TLR4	RC Power Buildup	10,000	15,000-19,000	40,000
TLR 1	PC Circulating Power	150 kW	150 kW	500 kW

Table 3: Requirements on the ALPS II optical system

Parameter	Requirement	Expectation for SR1	Future Goal
Axion field coupling to RC (power)	90%	90%	98%
<i>Spatial overlap</i>	95%	95%	99%
Angular alignment of eigenmodes	5.7 μ rad	\sim 5 μ rad	3.3 μ rad
Transversal alignment of eigenmodes	1.2 mm (5 μ rad)	\sim 1 mm	0.4 mm (1.5 μ rad)
<i>frequency/length coupling</i>	95%	95%	99%
dynamic phase noise	0.2 rad	0.1-0.2 rad	0.1 rad
slow frequency fluctuations	1.5 Hz	<1.5 Hz	0.5 Hz

Table 4: Requirements for fulfilling TLR3