TAMA RSE

1kHz 以上の帯域での感度向上

LCGT に向けた技術的デモンストレーション

*** Tuned RSE**

*** with alignment control**

*** with Power Recycling (G=10)**

*** Finesse of the arm cavity (=500)**

TAMA RSE 研究項目

＊RSEにおける信号取得法の検討

S/N を議論すべし！ --> sensing matrix+shot noise

- fine tuning of macro length
- double demodulation or single demodulation --> 変調方式の決定
- Lock acquisition
  - -- signal sign flip
  - -- optical gain change

＊Mirror Alignment in RSE configuration

- sensor (WFS, optical lever, mechanical modulation with WFS and etc.)
- detection optics
- topology (sensor -> filter -> actuator)

TAMA RSE 予算

3年間の研究計画として、、、

RSE Mirror	400	
AOM, EOM	200	= 100 + 100
Optics	200	
Laser maintain.	300	
Electronics	300	
Digital control	1000	
Vacuum	100	
PostDoc	1200	= 400 x3
total	3700	

(unit: 10000 Yen)