

ans =

30-Jul-2015 21:49:40

ifo =

```
      Bar: [1x1 struct]
      Optics: [1x1 struct]
Infrastructure: [1x1 struct]
      Constants: [1x1 struct]
      TCS: [1x1 struct]
      Seismic: [1x1 struct]
      Atmospheric: [1x1 struct]
      Suspension: [1x1 struct]
      Materials: [1x1 struct]
      Laser: [1x1 struct]
      Squeezer: [1x1 struct]
      OutputFilter: [1x1 struct]
```

Torsion Suspension (suspTorsion.m)

rwire =

2.2637e-04

- torsion suspension wire material: Tungsten
- torsion suspension wire loss angle:  $1e-07$
- torsion suspension wire temperature: 293 K
- torsion wire diameter (single wire, multiplied safety factor 1.5x): 452.7348

um

- torsion suspension wire length: 0.6 m
- torsion spring constant (2 wire): 0.027166 Nm/rad
- torsion bar inertia:  $0.6392 \text{ kg} \cdot \text{m}^2$
- torsion resonance: 0.03281 Hz

You are not injecting squeezing..loozer!

- Seismic Isolator: ANUP
- Seismic Ground Motion: LL0
- Seismic Isolator: ANUP
- Seismic Ground Motion: LL0

```
Laser Power:      0.200 Watt
SRM Detuning:      0.00 degree
SRM transmission:  1.0000
ITM transmission:  0.0213
PRM transmission:  1.0000
Finesse:          294.71
```

```
Power Recycling Factor: 1.00
Arm power:              0.02 kW
Power on beam splitter: 0.20 W
Thermal load on ITM:    0.000 W
Thermal load on BS:     0.000 W
```

Required TCS efficiency: 1.000 (estimate, see IFOModel.m for definition)

```
BNS Inspiral Range:  0.000 Mpc
BBH Inspiral Range:  0.002 Mpc
Stochastic Omega: 5e+01 Universes
```

New Nebulous Range: 1.248 Mpc

TORPEDO Configuration (nomm\_anu\_pType1.m)

- Reference Cavity Length: 6.2 m

- Arm Lengths: 0.368 m
- Bar length and diameter: 0.6 m x 0.06 m.
- Bar material: Aluminium
- Bar material loss angle:  $1.13 \times 10^6$
- Bar temperature: 293 K
- Bar mass: 13.128 kg
- Bar Inertia: 0.6392 kg\*m<sup>2</sup>