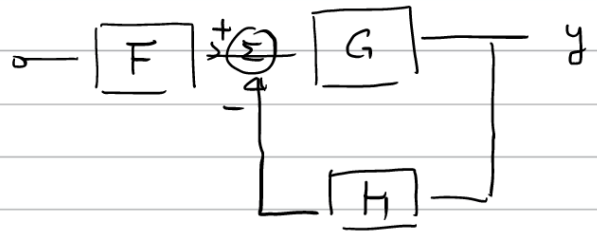
목적 : 감도 구하기

Sensitivity $S_G^T = \Delta T/T \,/\, \Delta G/G$




$T = \frac{G}{1+GH} F$

F 의 감도에 영향을 주지 않음 $S_F^T = 1$

$G : \frac{1}{1+GH}$ 로 같음

$H : \frac{-G}{1+GH}$

$S_F^T = \frac{\Delta T}{T} \cdot \frac{F}{\Delta F} = \frac{\partial T}{T} \frac{\cdot}{\partial F}$

$\frac{d\frac{f}{g}}{dt} = \frac{-fg' + f'g}{g^2}$ $\quad \frac{d\frac{-G}{1+GH}}{dF} = \frac{-(FG)(1+GH)' + (FG)'(1+GH)}{(1+GH)^2}$

$= \frac{-FG \cdot 0 \quad G(1+GH)}{(1+GH)^2} = \frac{G}{1+GH}$

$\frac{1+GH}{FG} \cdot F \cdot \frac{G}{1+GH} = \frac{\partial T}{T} \frac{\partial I}{\partial F} = 1.$

$S_G^T = \frac{\Delta T}{T} \Big/ \frac{\Delta G}{G} = \frac{G}{T} \frac{\partial T}{\partial G}$

$\frac{\Delta T}{\Delta G} = \frac{-(FG)(1 \cdot GH)' + (FG)'(1+GH)}{(1+GH)^2} = \frac{-FGH + F(1+GH)}{(1+GH)^2}$

$$= \frac{F}{(1+GH)^2} \quad \frac{G}{1} \quad \frac{(1+GH)}{FG} \cdot \frac{F}{(1+GH)^2} = \frac{1}{(1+GH)}$$