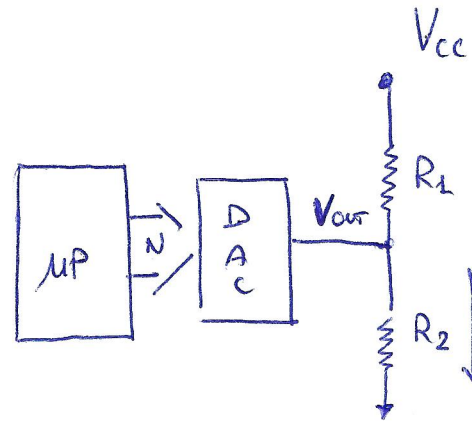


JANUARY 29th 2016

PV = acceleration

$V_M = I$, explosion, $\frac{dP}{dt} \Rightarrow$ LOOK UP TABLE OF POSSIBLE P VALUES

$V_c = N$



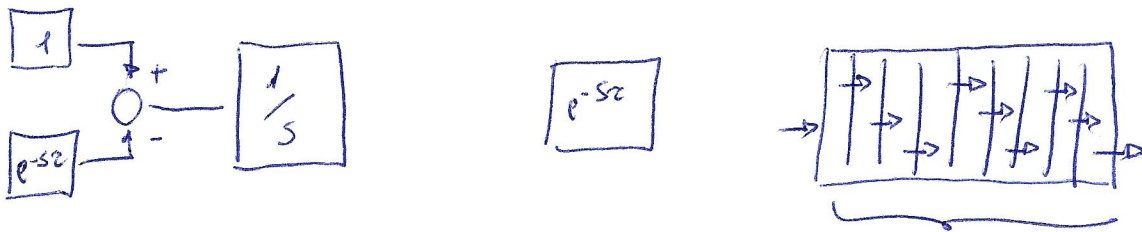
$G = \frac{\partial cc}{P} \cdot \frac{P}{I} = \frac{K}{S} \cdot \frac{\partial cc}{P} =$ A LOOKUP TABLE ASSOCIATES THE POSSIBLE VALUES OF P WITH POSSIBLE DAMAGES DUE TO ACC

• FROM THE TEXT $I = S P \Rightarrow \frac{P}{I} = \frac{1}{S}$

A POSSIBLE DELAY DUE TO THE EXPLOSION OF THE NITROGEN,

VERY LOW DELAY HOWEVER OTHERWISE PERMANENT DAMAGES TO THE ATHLETE $\Rightarrow 10 \div 100 \mu s$

SO WE IMPLEMENT A SHIT PREDICTOR WITH MEMORY CELLS



$N = 100 \quad T_{ck} = 100 \mu sec \quad \tau = 10 \mu$

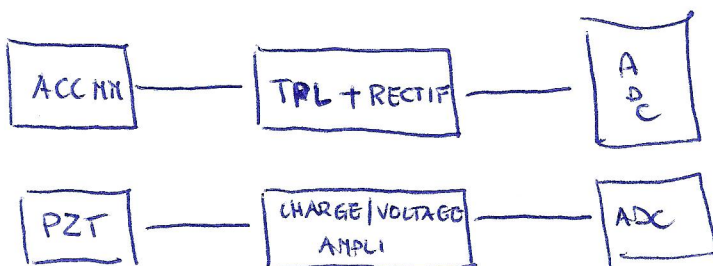
A PART THIS THE SYSTEM IS STABLE

A) WHAT KIND OF ACCELEROMETER?

SERVO ACCELEROMETER? WITH $10 \mu/s^2$? NOT SUITABLE

MOVING MASS ? POSSIBLE

PIEZOELECTRIC ? OK



$$N_{bit \text{ ADC}} = \log_2 \frac{100}{2} = 6$$

QUESTIONS

5.1) THE PULSE TO SWITCH ON A SCR MUST BE QUICK AND INTENSE.
THE CURRENT THAT CROSSES THE JST IS VERY HIGH AND EMPTIES
THE CAPACITOR QUICKLY, THEREFORE THE PULSE IS VERY FAST



5.2) THE INDUCTIVE NATURE (WIRES AND COILS) THAT ARE MODELLED AS R AND L

5.3) SINCE IT WOULD BE NECESSARY A BIG MAGNETIC FIELD \Rightarrow BIG INDUCTORS
WITH SUITABLE POWER SUPPLY. NOT THE USE FOR WHICH IT HAS BEEN
CONCEIVED. IN THAT CASE USE DIRECT CURRENT MOTOR.

5.4) 'REFERS A MEASURE TO ZERO

' PROVIDES A DIFFERENTIAL MEASUREMENT SO HIGHLIGHTING
POSITIVE AND NEGATIVE VARIATIONS

' COMPENSATES POSSIBLE SENSIBILITY TO ENVIRONMENTAL PARAMETER.

⋮

5.5) FARADAY NEUMANN LAW $f_{em} = - \frac{d\Phi}{dt} \dots$

TRANSDUCERS ; DIFFERENTIAL LINEAR POSITION

VARIABLE RELUCTANCE

INDUCTION BASED GENERATOR

TACHOMETRIC DYNAMO

SYNCHRO

⋮