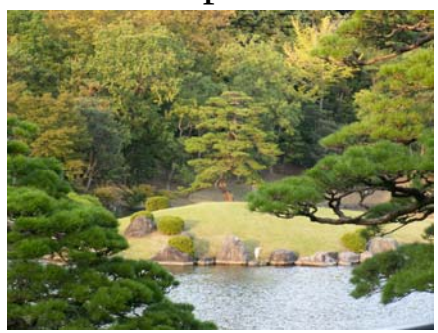
SUMMARY

LABORATORY/ CAMPUS:

No shoes in lab - Own desk - Good food in the ‘gakshoku’ - Cooking (barbeque, takoyaki, pizza, lamen, udon, …) - Even sleeping sometimes - Hairdresser -Japanese language course - Badminton - …

STUDENT LIFE:

Cool trips - Amazing temples and shrines - Very nice people - Good parties - Acapella festival - Osaka filharmonic orchestra - Izakaya - Japanese garden - Big cities - Capsule hotel - …



RESEARCH

A mathematical analysis and synthesis framework for attenuating disturbance responses due to control switching in a discrete, finite time context.

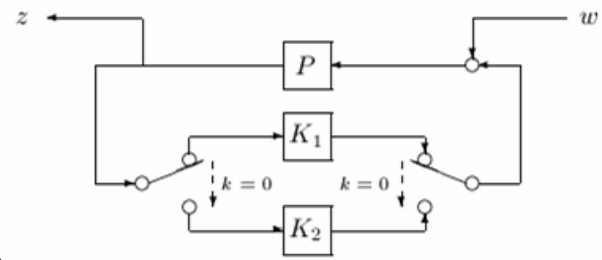


Figure 1.1: Switching of controllers

Advantages of switching :

Overcome fundamental limitations

of LTI systems (cfr. bandwidth, phase margin, damping, …)

→ Improving transient performance

Disadventages :

Bumpy responses → degrading control system performance

→ physical damage

Problem !

Switching between controllers **:**

Time span (-∞ ,+∞) : Switching at t = 0

t ≤ 0 : Plant + K1 PAST
t > 0 : Plant + K2 FUTURE

w = *exogenous disturbance input* = $w_{past} + w_{future}$

z = *disturbance control output* = $z_{past} + z_{future}$

$w_{past} \rightarrow z_{past}$: *Linear Time Invariant controller* K1

$w_{future} \rightarrow z_{future}$: *Linear Time Invariant controller* K2

Because of switching : $w_{past} \rightarrow z_{future}$: ***How to Control ???***

EXCHANGE STUDENT LIFE