

入学年度	学科 / 専攻	学科目 / 課程	年次	学籍番号	28J10105
				フリガナ	MAO BANG CHENG
				氏名	毛 邦成
科 目			担 当 教 員		

Today's lecture is very interesting and important I think. First Professor gave a chance to us to communicate with others to introduce what we have done last weekend. It can improve our English. And then, that is the most importance, we learnt the Laplace Transform. In fact, I learnt it before, but I thought it was difficult to understand so I just remember the result, such as

$$1 \rightarrow s \quad t \rightarrow s^2 \quad e^{-\frac{t}{\tau}} \rightarrow \frac{1}{1+\tau s}$$

Now, I know that we can't do only to remember the result, we must know how to get it. And I tried to calculate some and found I can deal with it by myself. It gave me confidence. UG!!!

And I found preview and review is very important, it can make us study easier in the class. So I will insist on doing it.

$$\star F(s) = \int_0^{\infty} f(t) \cdot e^{-st} \cdot dt$$

Perfect!

入学年度	学科 / 専攻	学科目 / 課程	年次	学籍番号	28510101
				フリガナ	
				氏名	Xu Guangyin
科目			担当教員		

Summary of today's lecture

At the beginning of today's lecture, someone shared what they had done in last weekend with everyone. I think it's a good chance to retrace something valuable or nonsense what we did. And let me remind a word like "Stay hungry, Stay foolish".

Then we began to forward our lecture with review the difference between Block diagram and Black box. After this, The Prof. began to describe the Laplace transform in order to let us understand why these two diagrams equal to each other like the following form.

$$\rightarrow [A] \rightarrow [B] \rightarrow = \rightarrow [AB] \rightarrow$$

Prof. Hasegawa said that try not to remember or memorize any equations. if we wanted to understand them just try to derive them by ourself. Then gave us some examples that how to derive and proceed the Laplace functions. I found that I should review them once again after this lecture.

Very good and
very good attitude

入学年度	学科 / 専攻	学科目 / 課程	年次	学籍番号	□□□□□□□□
				フリガナ	トケゴズ エメル
				氏名	TOKGOZ EMEL
科 目			担 当 教 員		

Last week, block diagram is defined as graphical explanation of natural or artificial systems. In this diagrams, the relationship between the input (cause) and the output (effect) is shown in a box. As an example, $f \rightarrow \boxed{1/m} \rightarrow a$ (Newton's 2nd law). By using these block diagrams, we can control and treat the system when it is needed. In this lecture, Laplace transformation is reviewed. Laplace transformation is going to be used to simplify the block diagrams. Such as, $\rightarrow \boxed{A} \rightarrow \boxed{B} \rightarrow \equiv \rightarrow \boxed{AB} \rightarrow$. The original definition of Laplace transformation is used to obtain the Laplace transformations of basic functions. Also, some functions such as delta and ramp function Laplace transformations are derived by using basic function transformation.

*Good!
Summary again.*

入学年度	学科 / 専攻	学科目 / 課程	年次	学籍番号	2PJ10043
				フリガナ	
				氏名	Kouji Sugita
科 目			担 当 教 員		
			Prof. Hasegawa		

We learned Laplace Transform in today's lecture.

If we know the definition of Laplace Transform, we can calculate about some fundamental functions, for example derivative function, integration function, step function and exponential function.

By using the result of Laplace Transform of these functions, we can get those of other function, for example delta function and ramp function.

Therefore, it can be said that we don't need to remember all of these result, ~~and we~~ ^{but only} should know the definition and some other mathematical laws.

Good!

入学年度	学科 / 専攻	学科目 / 課程	年次	学籍番号	□□□□□□□□
11/8				フリガナ	
				氏名	Hisako Kubo
科目			担当教員		

Firstly, for 20 minutes we had conversation time about the way how we spend last weekend or last week. I was asked to talk about something, but I couldn't make eyecontacts with anyone because I have no way to say. Next time, I hope I could make eyecontants with everyone, then enjoy conversations. This experiment was most inspired me actually. However we learned the way to get answers of Laplace transform without using some definition we remembered. Once we can get the answer by ourselves, we don't need to remember it. Then, We can use the verb 'understand', not 'know'.

Good!

8. Nov.

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入学年度	学科 / 専攻	学科目 / 課程	年次	学籍番号	28710028
				フリガナ	
				氏名	Takumi Kubo
科 目			担 当 教 員		

Today first, some students spoke about their last weekend. (played tennis, watched the movie, did part-time job.) Next topic is "Laplace Transform".

We should have understood about it but I forgot.

Prof. Hasegawa said that Important thing is to

understand, not to know. I thought that mind is

very important. if I know fundamental equation, I

~~could~~ solve and obtain many ^{laws} ~~laws~~ after that we ^{can}

learned many useful ^{various} functions of Laplace Transform. _S

If I encounter Laplace Transforms, I will be able to

solve them.

Good!

入学年度	学科 / 専攻	学科目 / 課程	年次	学籍番号	□□□□□□□□
				フリガナ	ブランドン ジュアソ
				氏名	BLANDON, JUAN
科 目			担 当 教 員		

good writing?
8

In today's lecture, we made a review of Laplace transform, which is necessary to understand because it will be used during future lectures to manipulate the block diagrams. During Laplace's transform explanation first of all the original definition was presented, and starting from this original definition, we found all the other basic Laplace's transforms, such as the delayed function, the unit function, and also about the Laplace's transform of the derivative and integrator of functions, however one key point mentioned about this basic transforms, is that they can only be used when initial conditions are equal to zero. If this is not accomplished, then the original definition has to be used.

We also made a brief conversation, about some of the student's activities during this weekend, and some important advice about eye contact, and many other english responses to questions were given.

good!

I except katakana 'ン' [n]. Your 'ン' looks like 'ン' [so]. In Japanese write order is important. I will let you know brush writing! → turn it over

Brush writing manner is
basic of Japanese
hand writing.



ス



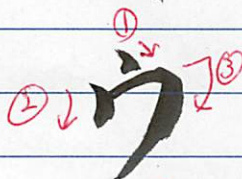
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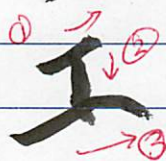
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入学年度	学科 / 専攻	学科目 / 課程	年次	学籍番号	28310111
				フリガナ	マチャ
				氏名	馬 冲 (MA CHONG)
科 目			担 当 教 員		

Through today's class, I learned the meaning of Laplace Transform and understand the importance of Laplace Transform in the field of signal working. I learned the method to make the Laplace Transform more convenient to use.

Besides, I mastered the basic law for Laplace Transform such as

$$\mathcal{L}\{f'(t)\} = -f(0) + sF(s)$$

$$\mathcal{L}\left\{\int_0^t f(\tau) d\tau\right\} = \frac{1}{s} F(s) + \int_0^0 f(\tau) d\tau / s$$

$$\mathcal{L}\{f(t-\tau)\} = e^{-s\tau} F(s)$$

$$t \geq \tau$$

and so on.

Try not to include.

I also learned how to derive these basic equations for Laplace Transform.

I'm very sorry for my late attendance. Some days ago, I got a time table from my classmates in my laboratory that told me that today (11/05) is university's holiday. Therefore I think there is no class today. Maybe I ~~mistakenly~~ misunderstood the meaning of the time table. I'm really very sorry!

Good!



It's of my fault too.

Actually it is not ^{an} university holiday, but a kind of autumn festival week since last Friday.

Anyway please enjoy your life here.

Thank you for pointing out my mistakes on deriving some formulae.

入学年度	学科 / 専攻	学科目 / 課程	年次	学籍番号	20210096
				フリガナ	
				氏名	Yuki Yamamoto
科目			担当教員		
Theory of Motion and Control			Prof. Hasegawa		
I learned that the sum of block diagrams can be expressed by Laplace Transform. <i>→ Not yet!</i>					
We may not remember the results of some case of Laplace Transform but remember only the following definition.					
$\mathcal{L}[f(t)] = \int_0^{\infty} f(t) e^{-st} dt$					
It is important to solve the equations by inspiration. The equation which looks like difficult to solve is sometimes very easy to imagine the meaning of the equation.					
<i>you had better say here, for example,</i> <i>yes, you are right. ^{slit.} very fundamental definitions or equations.</i>					
<i>But it may lead some misunderstanding too. You had better say, rather,</i>					
1. Remember as least as possible 2. Derive other relevant formulae by yourself 3. If the problem looks difficult to solve by the above mentioned way, try your inspiration.					
<i>Good!</i>					

入学年度	学科 / 専攻	学科目 / 課程	年次	学籍番号	□□□□□□□□
				フリガナ	
				氏名	Erkang Fu
科 目			担 当 教 員		

Today, Professor gave the lecture about how to solve problems by using Laplace Transformation. Firstly Professor introduced the basic equation of $F(s) = \int_0^{\infty} f(t) e^{-st} dt$ and gave examples when $f(t)$ is a designated function such as $a e^{-\frac{t}{T}}$. Then, Professor introduced how to derive Laplace Transformation when $\int_0^{\infty} f(t) dt$ and $\int_0^{\infty} f'(t) dt$. Later, Professor showed us some fundamental ~~equations~~ ^{formulas} such as

$$\left\{ \begin{array}{l} f(t) \rightarrow F(s) \\ f'(t) \rightarrow sF(s) - f(0) \\ \int_0^{\infty} f(t) dt \rightarrow \frac{1}{s} F(s) + \frac{F(0)}{s} \\ \int_0^{\infty} f(t) e^{-\frac{t}{T}} dt \rightarrow \frac{1}{1 + Ts} \\ \delta(t) \rightarrow 1 \\ \text{ramp}(t) \rightarrow \frac{1}{s^2} \end{array} \right.$$

Finally, professor introduced the Delayed Function. For example, when it became $\int_0^{\infty} f(t-\tau) e^{-st} dt$, it can be derived to $\int_0^{\infty} f(m) e^{-s(m+\tau)} dm = e^{-s\tau} F(s)$.

- 1) Try not to frequently use 'Professor'.
- 2) Try not to use equations.
- 3) Try to include your impression, too!

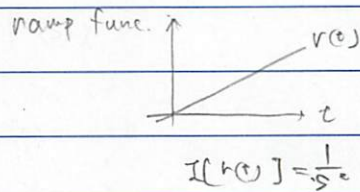
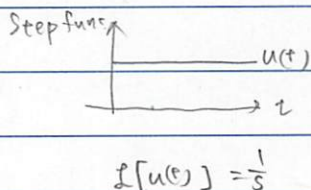
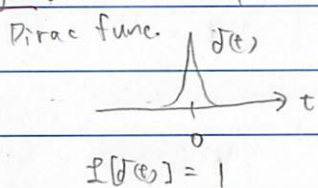
入学年度	学科 / 専攻	学科目 / 課程	年次	学籍番号	28J10025
				フリガナ	
				氏名	Risa Kitamoto
科目			担当教員		
Theory of Motion and Control			Professor Hasegawa		

We learned Laplace Transform. Laplace Transform is defined as:

$$\mathcal{L}[f(t)] = \int_0^{\infty} f(t) e^{-st} dt = F(s)$$

Various functions can be transformed by Laplace Transform.

I learned that to remember is not important. It is important to image. For example:



As I image, I can get easily characteristics.

Image is not ~~the~~ right word.

Maybe "inspired" or "associate" is better.
^{be}

OK. but try not to include operations
 and figures.

入学年度	学科 / 専攻	学科目 / 課程	年次	学籍番号	28110083
				フリガナ	
				氏名	Shuji Matsuka
科目			担当教員		

To understand block diagram I learned Laplace Transform. If I understand the definition of Laplace Transform, I solve many fundamental equations of Laplace. I also learned some special Laplace transform. For example, these are delta function, ramp function and delayed function. If I want to represent the motion of damping, I can use delayed function.

Transform

any arbitrary motion
of an object

some fundamental functions such as
delta function or step function
with combination of their

OK

入学年度	学科 / 専攻	学科目 / 課程	年次	学籍番号	28J10009
				フリガナ	
				氏名	Yuto Ito
科 目			担 当 教 員		

I learned these things today.

- When we talk, we should try to keep eye contact.
- There are many ways to explain Japanese words.
- We should try to understand, *what?*
- Laplace Transform's formulae (how to derive)

$$F(s) = \mathcal{L}\{f(t)\} = \int_0^{\infty} f(t) e^{-st} dt \quad (\text{pl.})$$

$$\mathcal{L}\{f'(t)\} = sF(s) - f(0)$$

$$\mathcal{L}\left\{\int_0^t f(\tau) d\tau\right\} = \frac{1}{s} F(s) + \frac{\int_0^{\infty} f(\tau) d\tau}{s}$$

$$\mathcal{L}\left\{\int_0^t u(\tau) d\tau\right\} = \frac{1}{s} \quad (\text{step function})$$

$$\mathcal{L}\left\{e^{-\frac{t}{T}}\right\} = \frac{T}{1+Ts}$$

$$\mathcal{L}\left\{\int_0^t \delta(\tau) d\tau\right\} = 1 \quad \left(\delta(t) = \begin{cases} f(t) = 0 & \text{for } t < 0, t > 0 \\ \int_{-\infty}^{\infty} f(t) dt = 1 \end{cases} \right)$$

$$\mathcal{L}\left\{\int_0^t \text{ramp}(\tau) d\tau\right\} = \frac{1}{s^2}$$

$$\mathcal{L}\{f(t-\tau)\} = e^{-s\tau} F(s)$$

✓ Try to summarize them in full text as possible.

✓ You need not include any equations so on when you write the summary.

入学年度	学科 / 専攻	学科目 / 課程	年次	学籍番号	フリガナ
H22				28J10097	
				氏名	Eishi Yoshida
	科	目		担当教員	
					Hasegawa

Summarize

About Laplace Transform

Laplace Transform is defined as following equation.

$$F(s) = \int_0^{\infty} f(t) e^{-st} dt$$

There are Laplace transforms of major functions as following equations.

- $f(t) \rightarrow F(s)$
- $f'(t) \rightarrow sF(s) - f(0)$
- $\int f(t) dt \rightarrow \frac{1}{s} F(s) + \frac{1}{s} \int f(t) dt$ ← it is possible to have something wrong. so, I will check by next class.
- $\int e^{-\frac{t}{T}} dt \rightarrow \frac{T}{1+Ts}$

• Step function ~~$\int u(t) dt$~~ $u(t) \rightarrow \frac{1}{s}$

• Delta function $\delta(t) = \begin{cases} f(t)=0 & \text{for } t < 0, t > 0 \\ \int_{-\infty}^{\infty} f(t) dt = 1 \end{cases}$

→ 1

• Ramp function $\text{ramp}(t) \rightarrow \frac{1}{s^2}$

• Delayed function $f(t-\tau) \rightarrow e^{-s\tau} F(s)$

This is not the summary, but a notebook!

Try to summarize it in plain texts!

8/11

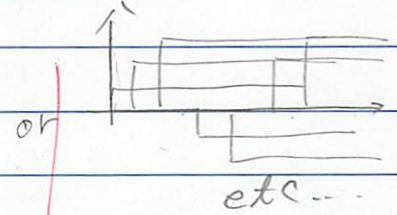
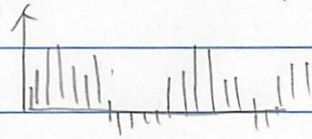
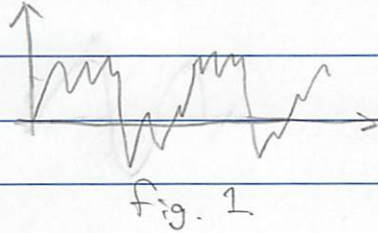
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入学年度	学科 / 専攻	学科目 / 課程	年次	学籍番号	28J10005
				フリガナ	イソベ ユウイチロウ
				氏名	石部 雄一郎
科目			担当教員		
			Yuichiro Isobe		

Today's lecture is about Laplace Transform.

By using Laplace Transform, we can analyze the 'time-series data' (like fig. 1).

X/O, NO, NO!



etc...

* Laplace Transform's definition is.

$$F(s) = \int_0^{\infty} f(t) e^{-st} dt;$$

Laplace Transform examples are ... (if $f(0) = 0$).

$f'(t) \rightarrow sF(s)$
$\int f(t) dt \rightarrow \frac{1}{s} F(s)$
$u(t) \rightarrow \frac{1}{s}$
$e^{-\frac{t}{T}} \rightarrow \frac{1}{1+Ts}$
$f(t) \rightarrow 1$
$\text{ramp}(t) \rightarrow \frac{1}{s^2}$
$f(t-T) \rightarrow e^{-sT} F(s)$

(Delayed Function).

you misunderstood.

Not important.

try to make a kind of story.