

9 января 2021 г.

Ведомость посещения занятий по преобразователям энергии студентами 6400 группы

| | | 21 ноября | 28 ноября | 12 декабря | | | | | | |
|----|-----------------------------|-----------|-----------|------------|--|--|--|--|--|--|
| 1 | Барановский Руслан | | ✓ | ✓ | | | | | | |
| 2 | Евстратов Владимир | ✓ | | ✓ | | | | | | |
| 3 | Задорожнюк Даниил Булатович | | ✓ | | | | | | | |
| 4 | Иванченко Максим Вадимович | | ✓ | | | | | | | |
| 5 | Маратов Мирас | | | | | | | | | |
| 6 | Обама Омбеде Николас Серж | ✓ | ✓ | ✓ | | | | | | |
| 7 | Седельников Вячеслав | ✓ | | ✓ | | | | | | |
| 8 | Дегбун Уильям Михаэль | ✓ | ✓ | ✓ | | | | | | |
| 9 | Филатенков Павел Андреевич | ✓ | ✓ | ✓ | | | | | | |
| 10 | Фомина Елизавета | ✓ | ✓ | ✓ | | | | | | |
| 11 | Халил Зейн | ✓ | ✓ | ✓ | | | | | | |
| 12 | Альмушреки Осама Абду Али | ✓ | ✓ | | | | | | | |
| 13 | Саид Амир | ✓ | ✓ | | | | | | | |
| 14 | Уллах Вахаб | | | | | | | | | |
| 15 | Содан Крешимир | | | | | | | | | |
| 16 | Масаве Паскаль Диоскори | ✓ | | ✓ | | | | | | |

выполнение лабораторных работ, 6400 группа

| | | T1 | T1 | T2 | T2 | T3 | T3 | T4 | T4 | T5 | T5 | T6 | T6 | L1 | L2 |
|----|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|
| 1 | Барановский Руслан | 21.12 | 29.12 | 21.12 | 29.12 | 21.12 | 29.12 | 22.12 | 30.12 | 21.12 | 30.12 | | | | |
| 2 | Евстратов Владимир | | | | | | | | | | | | | 3.01 | 3.01 |
| 3 | Задорожнюк Даниил | 19.12 | 19.12 | 19.12 | 29.12 | 25.12 | 30.12 | 23.12 | 23.12 | 25.12 | 29.12 | | | 31.12 | |
| 4 | Иванченко Максим Вадимович | 12.10 | 19.12 | 05.11 | 23.12 | 15.11 | 19.12 | 15.11 | 21.12 | 22.12 | 23.12 | | | | |
| 5 | Маратов Мирас | 20.12 | 29.12 | 06.11 | 29.12 | 20.12 | 30.12 | 21.12 | 30.12 | 20.12 | 30.12 | | | 30.12 | |
| 6 | Обама Омбеде Николас Серж | 10.10 | 17.10 | 21.11 | 21.11 | 05.12 | 23.12 | 22.12 | 23.12 | 22.12 | 23.12 | | | 31.12 | 31.12 |
| 7 | Седельников Вячеслав | 19.12 | 19.12 | 20.12 | 29.12 | 21.12 | — | 21.12 | 30.12 | 24.12 | 30.12 | 29.12 | 6.01 | 31.12 | 31.12 |
| 8 | Дегбун Уильям Михаэль | 10.10 | 17.10 | 21.11 | 21.11 | 21.11 | 26.12 | 22.12 | 26.12 | 22.12 | 26.12 | | | 31.12 | 31.12 |
| 9 | Филатенков Павел | 30.09 | 23.12 | 30.09 | 23.12 | 30.09 | 23.12 | 30.09 | 23.12 | 30.09 | 23.12 | | | | |
| 10 | Фомина Елизавета | 12.12 | 12.12 | 20.12 | 29.12 | 20.12 | 19.12 | 19.12 | 19.12 | 20.12 | 26.12 | | | 26.12 | |
| 11 | Халил Зейн | 12.12 | 12.12 | — | — | 26.12 | 26.12 | 25.12 | 26.12 | 25.12 | 26.12 | | | 26.12 | |
| 12 | Альмушреки Осама Абду Али | 10.10 | 10.10 | 17.10 | 17.10 | 21.11 | 21.11 | 21.12 | 21.12 | 21.12 | 21.12 | | | | |
| 13 | Саид Амир | | | | | 30.12 | 30.12 | 30.12 | 30.12 | 30.12 | 31.12 | | | | |
| 14 | Уллах Вахаб | | | | | | | | | | | | | | |
| 15 | Содан Крешимир | | | | | | | | | | | | | | |
| 16 | Масаве Паскаль Диоскори | 20.12 | 29.12 | 26.12 | 29.12 | 20.12 | 26.12 | 26.12 | 26.12 | 30.12 | 31.12 | | | | |

0.1 Task 1

- Ivanchenko – miss archive info, β is wrong
- ОБАМА Nicolas Serge – angles α , γ are not marked, actually initial version was screwed
- Масаве Паскаль Диоскори – miss to draw α , γ
- Маратов Мирас – miss to draw α , γ

0.2 Task 2 Covariant and contravariant

- Ivanchenko – T_a covers whole interval, it's one possible solution, another – is make m_1 symmetric
- ОБАМА Nicolas Serge – very good, quickly fixed picture, archive info mistakenly has author as Filatenkov P.A.
- Маратов Мирас – miss archive info
- Седельников – in archive info autor is Alexandra (female)
- Барановский – miss archive info
- Масаве Паскаль Диоскори – at figure exchange please m_1 and m_2

0.3 Task 3 Boost converter

- Ivanchenko – catch formula 10.18 "А так же отвечаю на вопрос. Мне кажется что формула для оценки емкости конденсатора (10.18) не верна, поскольку как написано в тексте выше энергия запасенная в катушке переходит в энергию поля конденсатора, однако это происходит не за период как указано в формуле, а лишь за то время, за которое катушка разряжается." $C_{out} > \frac{i_{out}}{f \cdot \Delta U_{out}}$ – this equation is an estimation. As to me I estimate by decay capacitor by R_{load} (with lianerization exponent).
- OBAMA Nicolas Serge – good, title pages was doubled, in archive Subject and Keywords were intendently missed, this is no good.

0.4 Task 4 Checking data for boost converter using graphs

- Ivanchenko – has archive info, Graphs are right and have his numbers.
- OBAMA Nicolas Serge – According to the student's list yours number is 6.(in the report picked up 12)
- Zadorozhnyuk – made an extra job: matlab Analytical Solution with consideration of initial conditions

0.5 Task 5 Down converter

- Ivanchenko – fixed archive info, report does not have code for the model. amplitude of ripples in V_{out} is very small. ΔV_{out} should be roughly 10% from V_{out} as required. This lead to extra costs for capacitor. Inductors and capacitors are expensive.
- OBAMA Nicolas Serge – this interval [.0000501 - .0000520] instead of

Vs 4 0 PWL(0 0 .0000501 0 .0000520 1 .0002 1) r=0

could be made shorter

Vs 4 0 PWL(0 0 .0000520 0 .00005201 1 .0002 1) r=0

- Sedelnikov – amplitude of ripples should be equal roughly 10%
- Zain Khalil – archive info does not have author and subject, pictures have watermarks 'activate pirate software', digits in reports have mixed locale: "1.2" and "1,2". Program model is inconsistent with graphs. C1 3 0 0.23F – 'u' sign was ommit here. R_{Load} is not present at all.
- Baranouski – archive info is absent: author, subject, keywords. amplitude of ripples in V_{out} is very small. ΔV_{out} should be roughly 10% from V_{out} as required. This lead to extra costs for capacitor.
- Maratov – amplitude of ripples in V_{out} is very small. ΔV_{out} should be roughly 10% from V_{out} as required. This lead to extra costs for capacitor.
- Sedelnikov – amplitude of both ripples in V_{out} and ripples in I_L are very small. amplitude of the ripples should be roughly 10% from correspondent average values. Program model is absent in the report.
- Zadorozhnyuk – archive info in pdf file has ifrormation from 1-st task. Inspector should be different student not me. amplitude of ripples in V_{out} is very small.

- Maratov – amplitude of both ripples in V_{out} and ripples in I_L are very small. amplitude of the ripples should be roughly 10% from correspondent average values. Program model is absent in the report.
- Saeed Amir – used open software KiCad. This is good!

0.6 Active Rectifier

- Sedelnikov – made model by Matlab, one fix - non-symmetric instead of α, β he used A, B . Beside of charging battery also compensation of reactive power could be done by the same active rectifier.

0.7 Lab №1 Research of characteristics of power semiconductor devices

https://github.com/trot-t/2019-solar/blob/master/lab_en1.pdf

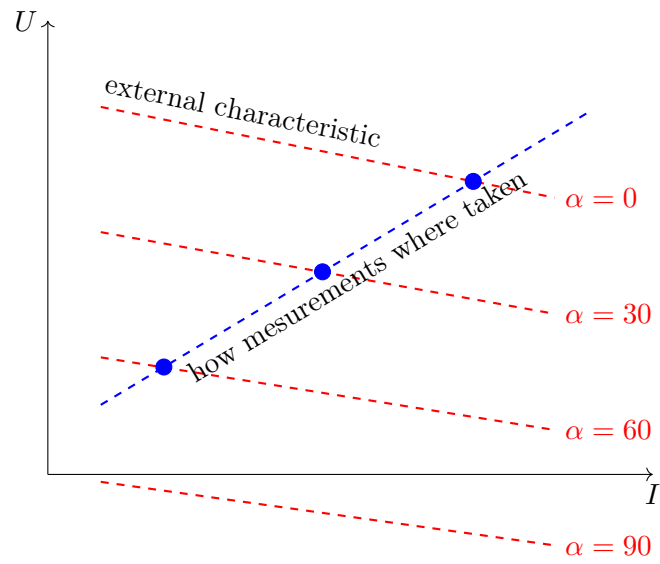
- Sedelnikov – at page5 you are not reach point V_{zigzag} when current starts to increase dramatically (the limit of the voltmeter V1 has 300V, or by the key below of the voltmeter V1 you could extend the limit to 600V) The measurements should be when capacitor C_1 is switch off (bad conditions \equiv classification conditions). But your measurements were finished at $40 \times 4V$. This dramatical increase of current should be measured in VAC for both directions (direct and backward). And VAC should be taken at $V_{control} = 0$. Minimum value of V_{zigzag} were current "folds" is used to figure out class of thyristor. Take into account since the voltage has a half-wave sinusoidal shape, conversion factor is π .

0.8 Lab №2 Research of unmanaged rectifiers and filters

https://github.com/trot-t/2019-solar/blob/master/lab_en2.pdf

0.9 Lab №4 Research of 3-phase half-wave thyristor converters

https://github.com/trot-t/2019-solar/blob/master/lab_en4.pdf



- OBAMA Nicolas Serge