ДОМАШНЕЕ ЗАДАНИЕ № 1 (второй семестр).

ОПЕРАТОРНЫЙ Метод РАСЧЕТА электрическОЙ цепИ.

Рассчитать операторным методом ток или напряжение, обозначенные на схеме стрелкой.

Построить график реакции.

Определить постоянную времени цепи.

Сделать проверку классическим методом.

Единицы измерения: *e* [В], *i* [А], *R* [Ом], *L* [Гн], *C* [Ф].

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| 1 | $$E$$ | *L* | *R*1 | *R*2 | *R*3 | *R*4 | *R*5 | *S* |
| в | 160 | 0.052632 | 16 | 10 | 50 | 25 | 40 | размык |



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| 2 | $$E$$ | *E*2 | *C* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 220 | 50 | 0.05 | 20 | 30 | 14 | 5 | размык |



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| 3 | $$E$$ | *E*2 | *L* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 120 | 60 | 0.5 | 3 | 1.2 | 3 | 1 | размык |



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| 4 | $$E$$ | *E*2 | *C* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 180 | 60 | 9.524·10-4 | 15 | 60 | 20 | 15 | размык |



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| 5 | $$i\_{J}$$ | *L* | *R*1 | *R*2 | *R*3 | *R*4 | *R*5 | *S* |
| в | 18 | 0.04545 | 3 | 10 | 20 | 20 | 30 | размык |



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| 6 | $$E$$ | $$i\_{J}$$ | *L* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 30 | 18 | 0.1 | 10 | 10 | 2.5 | 25 | размык |



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| 7 | $$E$$ | $$i\_{J}$$ | *C* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 200 | 4.667 | 1.429·10-5 | 30 | 10 | 60 | 10 | размык |



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| 8 | $$E$$ | *U*1 | *L* | *R*1 | *R*2 | *R*3 | *S* |
| в | 80 | 20 | 0.5 | 5 | 5 | 10 | замык |



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| 9 | $$E$$ | *E*2 | *L* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 30 | 90 | 0.25 | 30 | 15 | 3 | 7 | размык |



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| 10 | $$E\_{1}$$ | *C* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 120 | 4·10-3 | 20 | 5 | 30 | 10 | размык |



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| 11 | $$E\_{1}$$ | $$i\_{J}$$ | *L* | *R*1 | *R*2 | *R*3 | *S* |
| в | 150 | 5 | 0.5 | 30 | 20 | 60 | размык |



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| 12 | $$E\_{1}$$ | $$i\_{J}$$ | *L* | *R*1 | *R*2 | *S* |
| в | 150 | 5 | 0.01 | 30 | 15 | размык |



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| 13 | $$E$$ | *U*1 | *C* | *R*1 | *R*2 | *R*3 | *S* |
| в | 300 | 150 | 10-3 | 60 | 10 | 30 | размык |



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| 14 | $$i\_{J}$$ | *E*1 | *L* | *R*1 | *R*2 | *R*3 | *S* |
| в | 1 | 120 | 0.2 | 60 | 30 | 60 | замык |



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| 15 | $$i\_{J}$$ | *E*1 | *C* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 3 | 30 | 4·10-3 | 15 | 30 | 5 | 5 | замык |



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| 16 | $$E\_{1}$$ | *E*2 | *L* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 12 | 8 | 0.3 | 6 | 1 | 3 | 6 | размык |



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| 17 | $$i\_{J}$$ | *E* | *L* | *R*1 | *R*2 | *R*3 | *S* |
| в | 7 | 72 | 0.5 | 12 | 15 | 20 | размык |



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| 18 | $$E$$ | *L* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 24 | 0.02 | 6 | 3 | 2 | 6 | размык |



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| 19 | $$E\_{2}$$ | *E*1 | *C* | *R*1 | *R*2 | *R*3 | *S* |
| в | 9 | 6 | 0.25·10-3 | 9 | 6 | 3 | размык |



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| 20 | $$i\_{J1}$$ | $$i\_{J2}$$ | *L* | *R*1 | *R*2 | *R*3 | *S* |
| в | 9 | 12 | 0.1 | 8 | 16 | 24 | размык |



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| 21 | $$E$$ | $$i\_{J}$$ | *C* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 18 | 3 | 7.143·10-5 | 6 | 3 | 2 | 4 | размык |



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| 22 | $$E$$ | *C* | *R*1 | *R*2 | *R*3 | *R*4 | *R*5 | *S* |
| в | 15 | 2.5·10-4 | 3 | 2 | 5.8 | 6 | 3 | размык |



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| 23 | $$E\_{1}$$ | *E*2 | *L* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 15 | 64 | 0.25 | 3 | 8 | 3 | 2 | замык |



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| 24 | $$i\_{J}$$ | *C* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 12 | 2.5·10-4 | 2 | 7 | 9 | 6 | замык |



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| 25 | $$i\_{J}$$ | *E* | *C* | *R*1 | *R*2 | *R*3 | *S* |
| в | 0.5 | 100 | 2.5·10-5 | 20 | 20 | 80 | размык |



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| 26 | $$E\_{2}$$ | *E*1 | *C* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 12 | 16 | 1.25·10-4 | 4 | 4 | 5 | 3 | размык |



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| 27 | $$E$$ | $$i\_{J}$$ | *L* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 18 | 8 | 0.143 | 9 | 3 | 2 | 4 | замык |



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| 28 | $$E$$ | *C* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 150 | 0.01 | 30 | 20 | 25 | 32 | размык |



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| 29 | $$i\_{J}$$ | *U*1 | *C* | *R*1 | *R*2 | *R*3 | *R*4 | *S* |
| в | 6 | 20 | 0.01667 | 4 | 12 | 6 | 6 | размык |



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| 30 | $$i\_{J}$$ | *E*1 | *C* | *R*1 | *R*2 | *R*3 | *S* |
| в | 10 | 120 | 0.1 | 1 | 9 | 99 | замык |

