German-Russian Institute of Advanced Technologies

TU-Ilmenau (Germany) and KNRTU-KAI (Kazan, Russia)

**Laboratory research**

**“Frequency responses of linear automatic control systems”**

Student: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lecturer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Kazan, 2018

# Report

## Individual function

## Transformation phase

## Result formulas

## Graphics

## Calculations

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| x | W | U | V | A\_w | phi\_w | log(A\_w) | log(phi\_w) |
| 0,0001 | 10001,67 | 1,666666 | -10000 | 10000 | 1,57063 | 4 | 0,196073795 |
| 0,00012 | 8334,999 | 1,666666 | -8333,33 | 8333,334 | 1,570596 | 3,920819 | 0,196064577 |
| 0,00014 | 7144,523 | 1,666666 | -7142,86 | 7142,858 | 1,570563 | 3,853872 | 0,19605536 |
| 0,00016 | 6251,666 | 1,666666 | -6250 | 6250,001 | 1,57053 | 3,79588 | 0,196046143 |
| 0,00018 | 5557,221 | 1,666666 | -5555,56 | 5555,557 | 1,570496 | 3,744728 | 0,196036925 |
| 0,0002 | 5001,666 | 1,666666 | -5000 | 5000,001 | 1,570463 | 3,69897 | 0,196027707 |
| 0,00022 | 4547,12 | 1,666666 | -4545,46 | 4545,456 | 1,57043 | 3,657577 | 0,196018489 |
| 0,00024 | 4168,332 | 1,666666 | -4166,67 | 4166,668 | 1,570396 | 3,619789 | 0,196009271 |
| 0,00026 | 3847,819 | 1,666665 | -3846,16 | 3846,156 | 1,570363 | 3,585027 | 0,196000052 |
| 0,00028 | 3573,094 | 1,666665 | -3571,43 | 3571,431 | 1,57033 | 3,552842 | 0,195990834 |
| 0,0003 | 3334,998 | 1,666665 | -3333,33 | 3333,335 | 1,570296 | 3,522879 | 0,195981615 |
| 0,00032 | 3126,665 | 1,666665 | -3125 | 3125,002 | 1,570263 | 3,49485 | 0,195972396 |
| 0,00034 | 2942,841 | 1,666665 | -2941,18 | 2941,179 | 1,57023 | 3,468521 | 0,195963177 |
| 0,00036 | 2779,442 | 1,666664 | -2777,78 | 2777,78 | 1,570196 | 3,443698 | 0,195953957 |
| 0,00038 | 2633,244 | 1,666664 | -2631,58 | 2631,582 | 1,570163 | 3,420217 | 0,195944738 |
| 0,0004 | 2501,664 | 1,666664 | -2500 | 2500,003 | 1,57013 | 3,39794 | 0,195935518 |
| 0,00042 | 2382,617 | 1,666663 | -2380,95 | 2380,955 | 1,570096 | 3,376751 | 0,195926298 |