МИНИСТЕРСТВО ОБРАЗОВАНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ

Учреждение образования   
«Гомельский государственный университет имени Франциска Скорины»

Факультет физики и информационных технологий

Кафедра общей физики

Отчёт по теме

**«ЗАЩИТА ИНФОРМАЦИИ ОТ УТЕЧКИ ПО ЭЛЕКТРОМАНИТНОМУ КАНАЛУ»**

Студент группы МС-22 Яковенко Т.В.

Проверил: ст. преп. Соколов С.И.

Гомель 2022

**Цель работы**

Цель работы: Изучить пассивные методы защиты информации от утечки по электромагнитному каналу за счет ПЭМИН, получить практические навыки при расчете экранов электромагнитного излучения.

**Расчет эффективности экранирования и глубины проникновения**

**электромагнитного поля.**

Для толщины экрана 0,1 мм;

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| --- | --- | --- | --- | --- | --- |
| МЕДЬ  Эо | Эотр | | | Эпогл | |
| 123,131382 | 141,0914447 | | | 0,126472728 | |
| 123,131382 | 138,0811447 | | | 0,178859447 | |
| 123,131382 | 136,3202321 | | | 0,21905719 | |
| 123,131382 | 135,0708448 | | | 0,252945455 | |
| 123,131382 | 134,1017447 | | | 0,282801616 | |
| 123,131382 | 133,3099322 | | | 0,309793649 | |
| 123,131382 | 132,6404643 | | | 0,334615385 | |
| 123,131382 | 132,0605448 | | | 0,357718893 | |
| 123,131382 | 131,5490196 | | | 0,379418183 | |
| 123,131382 | 131,0914447 | | | 0,399941881 | |
| 123,131382 | 121,0914447 | | | 1,264727275 | |
| 123,131382 | 118,0811447 | | | 1,788594465 | |
| 123,131382 | 116,3202321 | | | 2,190571898 | |
| 123,131382 | 115,0708448 | | | 2,52945455 | |
| 123,131382 | 114,1017447 | | | 2,82801616 | |
| 123,131382 | 113,3099322 | | | 3,097936488 | |
| 123,131382 | 112,6404643 | | | 3,346153846 | |
| 123,131382 | 112,0605448 | | | 3,57718893 | |
| 123,131382 | 111,5490196 | | | 3,794181825 | |
| 123,131382 | 111,0914447 | | | 3,999418808 | |
| ЛАТУНЬ  Эо | | Эотр | Эпогл | |
| 112,4291184 | | 135,7403127 | 0,068303079 | |
| 112,4291184 | | 132,7300127 | 0,096595141 | |
| 112,4291184 | | 130,9691001 | 0,118304404 | |
| 112,4291184 | | 129,7197128 | 0,136606159 | |
| 112,4291184 | | 128,7506126 | 0,152730329 | |
| 112,4291184 | | 127,9588002 | 0,167307692 | |
| 112,4291184 | | 127,2893323 | 0,180712962 | |
| 112,4291184 | | 126,7094128 | 0,193190282 | |
| 112,4291184 | | 126,1978876 | 0,204909238 | |
| 112,4291184 | | 125,7403127 | 0,215993302 | |
| 112,4291184 | | 115,7403127 | 0,683030794 | |
| 112,4291184 | | 112,7300127 | 0,965951412 | |
| 112,4291184 | | 110,9691001 | 1,183044038 | |
| 112,4291184 | | 109,7197128 | 1,366061587 | |
| 112,4291184 | | 108,7506126 | 1,527303285 | |
| 112,4291184 | | 107,9588002 | 1,673076923 | |
| 112,4291184 | | 107,2893323 | 1,807129618 | |
| 112,4291184 | | 106,7094128 | 1,931902824 | |
| 112,4291184 | | 106,1978876 | 2,049092381 | |
| 112,4291184 | | 105,7403127 | 2,15993302 | |

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| АЛЮМИНИЙ  Эо | Эотр | Эпогл |
| 118,449718 | 138,7506126 | 0,096595141 |
| 118,449718 | 135,7403127 | 0,136606159 |
| 118,449718 | 133,9794001 | 0,167307692 |
| 118,449718 | 132,7300127 | 0,193190282 |
| 118,449718 | 131,7609126 | 0,215993302 |
| 118,449718 | 130,9691001 | 0,236608808 |
| 118,449718 | 130,2996322 | 0,255566721 |
| 118,449718 | 129,7197128 | 0,273212317 |
| 118,449718 | 129,2081875 | 0,289785424 |
| 118,449718 | 128,7506126 | 0,305460657 |
| 118,449718 | 118,7506126 | 0,965951412 |
| 118,449718 | 115,7403127 | 1,366061587 |
| 118,449718 | 113,9794001 | 1,673076923 |
| 118,449718 | 112,7300127 | 1,931902824 |
| 118,449718 | 111,7609126 | 2,15993302 |
| 118,449718 | 110,9691001 | 2,366088076 |
| 118,449718 | 110,2996322 | 2,555667214 |
| 118,449718 | 109,7197128 | 2,732123175 |
| 118,449718 | 109,2081875 | 2,897854236 |
| 118,449718 | 108,7506126 | 3,054606571 |
| СТАЛЬ  Эо | Эотр | Эпогл |
| 107,9921434 | 116,5321251 | 0,374111373 |
| 107,9921434 | 113,5218252 | 0,529073378 |
| 107,9921434 | 111,7609126 | 0,647979906 |
| 107,9921434 | 110,5115252 | 0,748222746 |
| 107,9921434 | 109,5424251 | 0,836538462 |
| 107,9921434 | 108,7506126 | 0,916381971 |
| 107,9921434 | 108,0811447 | 0,989805656 |
| 107,9921434 | 107,5012253 | 1,058146756 |
| 107,9921434 | 106,9897 | 1,122334119 |
| 107,9921434 | 106,5321251 | 1,183044038 |
| 107,9921434 | 96,53212514 | 3,741113732 |
| 107,9921434 | 93,52182518 | 5,290733778 |
| 107,9921434 | 91,76091259 | 6,47979906 |
| 107,9921434 | 90,51152522 | 7,482227463 |
| 107,9921434 | 89,54242509 | 8,365384615 |
| 107,9921434 | 88,75061263 | 9,163819712 |
| 107,9921434 | 88,08114474 | 9,89805656 |
| 107,9921434 | 87,50122527 | 10,58146756 |
| 107,9921434 | 86,98970004 | 11,22334119 |
| 107,9921434 | 86,53212514 | 11,83044038 |

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| СТАЛЬ 200  Эо | Эотр | Эпогл |
| 107,992143 | 110,5115252 | 0,748222746 |
| 107,992143 | 107,5012253 | 1,058146756 |
| 107,992143 | 105,7403127 | 1,295959812 |
| 107,992143 | 104,4909253 | 1,496445493 |
| 107,992143 | 103,5218252 | 1,673076923 |
| 107,992143 | 102,7300127 | 1,832763942 |
| 107,992143 | 102,0605448 | 1,979611312 |
| 107,992143 | 101,4806254 | 2,116293511 |
| 107,992143 | 100,9691001 | 2,244668239 |
| 107,992143 | 100,5115252 | 2,366088076 |
| 107,992143 | 90,51152522 | 7,482227463 |
| 107,992143 | 87,50122527 | 10,58146756 |
| 107,992143 | 85,74031268 | 12,95959812 |
| 107,992143 | 84,49092531 | 14,96445493 |
| 107,992143 | 83,52182518 | 16,73076923 |
| 107,992143 | 82,73001272 | 18,32763942 |
| 107,992143 | 82,06054482 | 19,79611312 |
| 107,992143 | 81,48062535 | 21,16293511 |
| 107,992143 | 80,96910013 | 22,44668239 |
| 107,992143 | 80,51152522 | 23,66088076 |
| ПАРАМАЛЛОЙ  Эо | Эотр | Эпогл |
| 91,73387623 | 84,60087915 | 2,273263892 |
| 91,73387623 | 81,5905792 | 3,214880626 |
| 91,73387623 | 79,82966661 | 3,937408559 |
| 91,73387623 | 78,58027924 | 4,546527783 |
| 91,73387623 | 77,61117911 | 5,083172592 |
| 91,73387623 | 76,81936665 | 5,568336585 |
| 91,73387623 | 76,14989875 | 6,014490922 |
| 91,73387623 | 75,56997928 | 6,429761253 |
| 91,73387623 | 75,05845406 | 6,819791675 |
| 91,73387623 | 74,60087915 | 7,18869162 |
| 91,73387623 | 64,60087915 | 22,73263892 |
| 91,73387623 | 61,5905792 | 32,14880626 |
| 91,73387623 | 59,82966661 | 39,37408559 |
| 91,73387623 | 58,58027924 | 45,46527783 |
| 91,73387623 | 57,61117911 | 50,83172592 |
| 91,73387623 | 56,81936665 | 55,68336585 |
| 91,73387623 | 56,14989875 | 60,14490922 |
| 91,73387623 | 55,56997928 | 64,29761253 |
| 91,73387623 | 55,05845406 | 68,19791675 |
| 91,73387623 | 54,60087915 | 71,8869162 |

Для толщины экрана 0,5 мм;

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| МЕДЬ  Эо | Эотр | Эпогл |
| 137,110782 | 141,0914447 | 0,632363638 |
| 137,110782 | 138,0811447 | 0,894297233 |
| 137,110782 | 136,3202321 | 1,095285949 |
| 137,110782 | 135,0708448 | 1,264727275 |
| 137,110782 | 134,1017447 | 1,41400808 |
| 137,110782 | 133,3099322 | 1,548968244 |
| 137,110782 | 132,6404643 | 1,673076923 |
| 137,110782 | 132,0605448 | 1,788594465 |
| 137,110782 | 131,5490196 | 1,897090913 |
| 137,110782 | 131,0914447 | 1,999709404 |
| 137,110782 | 121,0914447 | 6,323636375 |
| 137,110782 | 118,0811447 | 8,942972326 |
| 137,110782 | 116,3202321 | 10,95285949 |
| 137,110782 | 115,0708448 | 12,64727275 |
| 137,110782 | 114,1017447 | 14,1400808 |
| 137,110782 | 113,3099322 | 15,48968244 |
| 137,110782 | 112,6404643 | 16,73076923 |
| 137,110782 | 112,0605448 | 17,88594465 |
| 137,110782 | 111,5490196 | 18,97090913 |
| 137,110782 | 111,0914447 | 19,99709404 |
| ЛАТУНЬ  Эо | Эотр | Эпогл |
| 126,4085184 | 135,7403127 | 0,341515397 |
| 126,4085184 | 132,7300127 | 0,482975706 |
| 126,4085184 | 130,9691001 | 0,591522019 |
| 126,4085184 | 129,7197128 | 0,683030794 |
| 126,4085184 | 128,7506126 | 0,763651643 |
| 126,4085184 | 127,9588002 | 0,836538462 |
| 126,4085184 | 127,2893323 | 0,903564809 |
| 126,4085184 | 126,7094128 | 0,965951412 |
| 126,4085184 | 126,1978876 | 1,02454619 |
| 126,4085184 | 125,7403127 | 1,07996651 |
| 126,4085184 | 115,7403127 | 3,415153968 |
| 126,4085184 | 112,7300127 | 4,82975706 |
| 126,4085184 | 110,9691001 | 5,915220189 |
| 126,4085184 | 109,7197128 | 6,830307937 |
| 126,4085184 | 108,7506126 | 7,636516427 |
| 126,4085184 | 107,9588002 | 8,365384615 |
| 126,4085184 | 107,2893323 | 9,035648089 |
| 126,4085184 | 106,7094128 | 9,659514119 |
| 126,4085184 | 106,1978876 | 10,2454619 |
| 126,4085184 | 105,7403127 | 10,7996651 |

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| АЛЮМИНИЙ  Эо | Эотр | Эпогл |
| 132,429118 | 138,7506126 | 0,482975706 |
| 132,429118 | 135,7403127 | 0,683030794 |
| 132,429118 | 133,9794001 | 0,836538462 |
| 132,429118 | 132,7300127 | 0,965951412 |
| 132,429118 | 131,7609126 | 1,07996651 |
| 132,429118 | 130,9691001 | 1,183044038 |
| 132,429118 | 130,2996322 | 1,277833607 |
| 132,429118 | 129,7197128 | 1,366061587 |
| 132,429118 | 129,2081875 | 1,448927118 |
| 132,429118 | 128,7506126 | 1,527303285 |
| 132,429118 | 118,7506126 | 4,82975706 |
| 132,429118 | 115,7403127 | 6,830307937 |
| 132,429118 | 113,9794001 | 8,365384615 |
| 132,429118 | 112,7300127 | 9,659514119 |
| 132,429118 | 111,7609126 | 10,7996651 |
| 132,429118 | 110,9691001 | 11,83044038 |
| 132,429118 | 110,2996322 | 12,77833607 |
| 132,429118 | 109,7197128 | 13,66061587 |
| 132,429118 | 109,2081875 | 14,48927118 |
| 132,429118 | 108,7506126 | 15,27303285 |
| СТАЛЬ  Эо | Эотр | Эпогл |
| 121,9715434 | 116,5321251 | 1,870556866 |
| 121,9715434 | 113,5218252 | 2,645366889 |
| 121,9715434 | 111,7609126 | 3,23989953 |
| 121,9715434 | 110,5115252 | 3,741113732 |
| 121,9715434 | 109,5424251 | 4,182692308 |
| 121,9715434 | 108,7506126 | 4,581909856 |
| 121,9715434 | 108,0811447 | 4,94902828 |
| 121,9715434 | 107,5012253 | 5,290733778 |
| 121,9715434 | 106,9897 | 5,611670597 |
| 121,9715434 | 106,5321251 | 5,915220189 |
| 121,9715434 | 96,53212514 | 18,70556866 |
| 121,9715434 | 93,52182518 | 26,45366889 |
| 121,9715434 | 91,76091259 | 32,3989953 |
| 121,9715434 | 90,51152522 | 37,41113732 |
| 121,9715434 | 89,54242509 | 41,82692308 |
| 121,9715434 | 88,75061263 | 45,81909856 |
| 121,9715434 | 88,08114474 | 49,4902828 |
| 121,9715434 | 87,50122527 | 52,90733778 |
| 121,9715434 | 86,98970004 | 56,11670597 |
| 121,9715434 | 86,53212514 | 59,15220189 |

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| СТАЛЬ 200  Эо | Эотр | Эпогл |
| 121,971543 | 110,5115252 | 3,741113732 |
| 121,971543 | 107,5012253 | 5,290733778 |
| 121,971543 | 105,7403127 | 6,47979906 |
| 121,971543 | 104,4909253 | 7,482227463 |
| 121,971543 | 103,5218252 | 8,365384615 |
| 121,971543 | 102,7300127 | 9,163819712 |
| 121,971543 | 102,0605448 | 9,89805656 |
| 121,971543 | 101,4806254 | 10,58146756 |
| 121,971543 | 100,9691001 | 11,22334119 |
| 121,971543 | 100,5115252 | 11,83044038 |
| 121,971543 | 90,51152522 | 37,41113732 |
| 121,971543 | 87,50122527 | 52,90733778 |
| 121,971543 | 85,74031268 | 64,7979906 |
| 121,971543 | 84,49092531 | 74,82227463 |
| 121,971543 | 83,52182518 | 83,65384615 |
| 121,971543 | 82,73001272 | 91,63819712 |
| 121,971543 | 82,06054482 | 98,9805656 |
| 121,971543 | 81,48062535 | 105,8146756 |
| 121,971543 | 80,96910013 | 112,2334119 |
| 121,971543 | 80,51152522 | 118,3044038 |
| ПАРМАЛЛОЙ  Эо | Эотр | Эпогл |
| 105,7132763 | 84,60087915 | 11,36631946 |
| 105,7132763 | 81,5905792 | 16,07440313 |
| 105,7132763 | 79,82966661 | 19,6870428 |
| 105,7132763 | 78,58027924 | 22,73263892 |
| 105,7132763 | 77,61117911 | 25,41586296 |
| 105,7132763 | 76,81936665 | 27,84168293 |
| 105,7132763 | 76,14989875 | 30,07245461 |
| 105,7132763 | 75,56997928 | 32,14880626 |
| 105,7132763 | 75,05845406 | 34,09895837 |
| 105,7132763 | 74,60087915 | 35,9434581 |
| 105,7132763 | 64,60087915 | 113,6631946 |
| 105,7132763 | 61,5905792 | 160,7440313 |
| 105,7132763 | 59,82966661 | 196,870428 |
| 105,7132763 | 58,58027924 | 227,3263892 |
| 105,7132763 | 57,61117911 | 254,1586296 |
| 105,7132763 | 56,81936665 | 278,4168293 |
| 105,7132763 | 56,14989875 | 300,7245461 |
| 105,7132763 | 55,56997928 | 321,4880626 |
| 105,7132763 | 55,05845406 | 340,9895837 |
| 105,7132763 | 54,60087915 | 359,434581 |

Для толщины экрана 1 мм;

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| МЕДЬ  Эо | Эотр | Эпогл |
| 143,131382 | 141,0914447 | 1,264727275 |
| 143,131382 | 138,0811447 | 1,788594465 |
| 143,131382 | 136,3202321 | 2,190571898 |
| 143,131382 | 135,0708448 | 2,52945455 |
| 143,131382 | 134,1017447 | 2,82801616 |
| 143,131382 | 133,3099322 | 3,097936488 |
| 143,131382 | 132,6404643 | 3,346153846 |
| 143,131382 | 132,0605448 | 3,57718893 |
| 143,131382 | 131,5490196 | 3,794181825 |
| 143,131382 | 131,0914447 | 3,999418808 |
| 143,131382 | 121,0914447 | 12,64727275 |
| 143,131382 | 118,0811447 | 17,88594465 |
| 143,131382 | 116,3202321 | 21,90571898 |
| 143,131382 | 115,0708448 | 25,2945455 |
| 143,131382 | 114,1017447 | 28,2801616 |
| 143,131382 | 113,3099322 | 30,97936488 |
| 143,131382 | 112,6404643 | 33,46153846 |
| 143,131382 | 112,0605448 | 35,7718893 |
| 143,131382 | 111,5490196 | 37,94181825 |
| 143,131382 | 111,0914447 | 39,99418808 |
| ЛАТУНЬ  Эо | Эотр | Эпогл |
| 132,4291184 | 135,7403127 | 0,683030794 |
| 132,4291184 | 132,7300127 | 0,965951412 |
| 132,4291184 | 130,9691001 | 1,183044038 |
| 132,4291184 | 129,7197128 | 1,366061587 |
| 132,4291184 | 128,7506126 | 1,527303285 |
| 132,4291184 | 127,9588002 | 1,673076923 |
| 132,4291184 | 127,2893323 | 1,807129618 |
| 132,4291184 | 126,7094128 | 1,931902824 |
| 132,4291184 | 126,1978876 | 2,049092381 |
| 132,4291184 | 125,7403127 | 2,15993302 |
| 132,4291184 | 115,7403127 | 6,830307937 |
| 132,4291184 | 112,7300127 | 9,659514119 |
| 132,4291184 | 110,9691001 | 11,83044038 |
| 132,4291184 | 109,7197128 | 13,66061587 |
| 132,4291184 | 108,7506126 | 15,27303285 |
| 132,4291184 | 107,9588002 | 16,73076923 |
| 132,4291184 | 107,2893323 | 18,07129618 |
| 132,4291184 | 106,7094128 | 19,31902824 |
| 132,4291184 | 106,1978876 | 20,49092381 |
| 132,4291184 | 105,7403127 | 21,5993302 |

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| АЛЮМИНИЙ  Эо | Эотр | Эпогл |
| 138,449718 | 138,7506126 | 0,965951412 |
| 138,449718 | 135,7403127 | 1,366061587 |
| 138,449718 | 133,9794001 | 1,673076923 |
| 138,449718 | 132,7300127 | 1,931902824 |
| 138,449718 | 131,7609126 | 2,15993302 |
| 138,449718 | 130,9691001 | 2,366088076 |
| 138,449718 | 130,2996322 | 2,555667214 |
| 138,449718 | 129,7197128 | 2,732123175 |
| 138,449718 | 129,2081875 | 2,897854236 |
| 138,449718 | 128,7506126 | 3,054606571 |
| 138,449718 | 118,7506126 | 9,659514119 |
| 138,449718 | 115,7403127 | 13,66061587 |
| 138,449718 | 113,9794001 | 16,73076923 |
| 138,449718 | 112,7300127 | 19,31902824 |
| 138,449718 | 111,7609126 | 21,5993302 |
| 138,449718 | 110,9691001 | 23,66088076 |
| 138,449718 | 110,2996322 | 25,55667214 |
| 138,449718 | 109,7197128 | 27,32123175 |
| 138,449718 | 109,2081875 | 28,97854236 |
| 138,449718 | 108,7506126 | 30,54606571 |
| СТАЛЬ  Эо | Эотр | Эпогл |
| 127,9921434 | 116,5321251 | 3,741113732 |
| 127,9921434 | 113,5218252 | 5,290733778 |
| 127,9921434 | 111,7609126 | 6,47979906 |
| 127,9921434 | 110,5115252 | 7,482227463 |
| 127,9921434 | 109,5424251 | 8,365384615 |
| 127,9921434 | 108,7506126 | 9,163819712 |
| 127,9921434 | 108,0811447 | 9,89805656 |
| 127,9921434 | 107,5012253 | 10,58146756 |
| 127,9921434 | 106,9897 | 11,22334119 |
| 127,9921434 | 106,5321251 | 11,83044038 |
| 127,9921434 | 96,53212514 | 37,41113732 |
| 127,9921434 | 93,52182518 | 52,90733778 |
| 127,9921434 | 91,76091259 | 64,7979906 |
| 127,9921434 | 90,51152522 | 74,82227463 |
| 127,9921434 | 89,54242509 | 83,65384615 |
| 127,9921434 | 88,75061263 | 91,63819712 |
| 127,9921434 | 88,08114474 | 98,9805656 |
| 127,9921434 | 87,50122527 | 105,8146756 |
| 127,9921434 | 86,98970004 | 112,2334119 |
| 127,9921434 | 86,53212514 | 118,3044038 |

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| СТАЛЬ 200  Эо | Эотр | Эпогл |
| 127,992143 | 110,5115252 | 7,482227463 |
| 127,992143 | 107,5012253 | 10,58146756 |
| 127,992143 | 105,7403127 | 12,95959812 |
| 127,992143 | 104,4909253 | 14,96445493 |
| 127,992143 | 103,5218252 | 16,73076923 |
| 127,992143 | 102,7300127 | 18,32763942 |
| 127,992143 | 102,0605448 | 19,79611312 |
| 127,992143 | 101,4806254 | 21,16293511 |
| 127,992143 | 100,9691001 | 22,44668239 |
| 127,992143 | 100,5115252 | 23,66088076 |
| 127,992143 | 90,51152522 | 74,82227463 |
| 127,992143 | 87,50122527 | 105,8146756 |
| 127,992143 | 85,74031268 | 129,5959812 |
| 127,992143 | 84,49092531 | 149,6445493 |
| 127,992143 | 83,52182518 | 167,3076923 |
| 127,992143 | 82,73001272 | 183,2763942 |
| 127,992143 | 82,06054482 | 197,9611312 |
| 127,992143 | 81,48062535 | 211,6293511 |
| 127,992143 | 80,96910013 | 224,4668239 |
| 127,992143 | 80,51152522 | 236,6088076 |
| ПАРМАЛЛОЙ  Эо | Эотр | Эпогл |
| 111,7338762 | 84,60087915 | 22,73263892 |
| 111,7338762 | 81,5905792 | 32,14880626 |
| 111,7338762 | 79,82966661 | 39,37408559 |
| 111,7338762 | 78,58027924 | 45,46527783 |
| 111,7338762 | 77,61117911 | 50,83172592 |
| 111,7338762 | 76,81936665 | 55,68336585 |
| 111,7338762 | 76,14989875 | 60,14490922 |
| 111,7338762 | 75,56997928 | 64,29761253 |
| 111,7338762 | 75,05845406 | 68,19791675 |
| 111,7338762 | 74,60087915 | 71,8869162 |
| 111,7338762 | 64,60087915 | 227,3263892 |
| 111,7338762 | 61,5905792 | 321,4880626 |
| 111,7338762 | 59,82966661 | 393,7408559 |
| 111,7338762 | 58,58027924 | 454,6527783 |
| 111,7338762 | 57,61117911 | 508,3172592 |
| 111,7338762 | 56,81936665 | 556,8336585 |
| 111,7338762 | 56,14989875 | 601,4490922 |
| 111,7338762 | 55,56997928 | 642,9761253 |
| 111,7338762 | 55,05845406 | 681,9791675 |
| 111,7338762 | 54,60087915 | 718,869162 |

**Частотная зависимость рассчитанных параметров**

Для толщины экрана 0,1 мм;

Для толщины экрана 0,5 мм;

Для толщины экрана 1 мм;

**Вывод**

В ходе лабораторной работы изучили методы защиты информации от утечки по электромагнитному каналу за счёт ПЭМИН, получили практические навыки при расчёте экранов электромагнитного излучения.