

<p>Angle Sum and Difference Formulas</p> $\sin(\theta \pm \varphi) = \sin \theta \cos \varphi \pm \cos \theta \sin \varphi$ $\cos(\theta \pm \varphi) = \cos \theta \cos \varphi \mp \sin \theta \sin \varphi$ $\tan(\theta \pm \varphi) = \frac{\tan \theta \pm \tan \varphi}{1 \mp \tan \theta \tan \varphi}$ <p>Sum-to-Product Formulas</p> $\sin \theta + \sin \varphi = 2 \sin\left(\frac{\theta + \varphi}{2}\right) \cos\left(\frac{\theta - \varphi}{2}\right)$ $\sin \theta - \sin \varphi = 2 \cos\left(\frac{\theta + \varphi}{2}\right) \sin\left(\frac{\theta - \varphi}{2}\right)$ $\cos \theta + \cos \varphi = 2 \cos\left(\frac{\theta + \varphi}{2}\right) \cos\left(\frac{\theta - \varphi}{2}\right)$ $\cos \theta - \cos \varphi = -2 \sin\left(\frac{\theta + \varphi}{2}\right) \sin\left(\frac{\theta - \varphi}{2}\right)$ <p>Product-to-Sum Formulas</p> $\sin \theta \sin \varphi = \frac{1}{2} [\cos(\theta - \varphi) - \cos(\theta + \varphi)]$ $\cos \theta \cos \varphi = \frac{1}{2} [\cos(\theta - \varphi) + \cos(\theta + \varphi)]$ $\sin \theta \cos \varphi = \frac{1}{2} [\sin(\theta + \varphi) + \sin(\theta - \varphi)]$ $\cos \theta \sin \varphi = \frac{1}{2} [\sin(\theta + \varphi) - \sin(\theta - \varphi)]$	<p>Double Angle Formulas</p> $\sin(2\theta) = 2 \sin \theta \cos \theta$ $\cos(2\theta) = \cos^2 \theta - \sin^2 \theta$ $= 2 \cos^2 \theta - 1$ $= 1 - 2 \sin^2 \theta$ $\tan(2\theta) = \frac{2 \tan \theta}{1 - \tan^2 \theta}$ <p>Half Angle Formulas</p> $\sin^2 \theta = \frac{1 - \cos(2\theta)}{2}$ $\cos^2 \theta = \frac{1 + \cos(2\theta)}{2}$ $\tan^2 \theta = \frac{1 - \cos(2\theta)}{1 + \cos(2\theta)}$ <p>Basic Identities</p> $\sin \theta = \frac{1}{\csc \theta} \quad \cos \theta = \frac{1}{\sec \theta}$ $\tan \theta = \frac{1}{\cot \theta} \quad \cot \theta = \frac{1}{\tan \theta}$ $\csc \theta = \frac{1}{\sin \theta} \quad \sec \theta = \frac{1}{\cos \theta}$	<p>Periodicity</p> $\sin(\theta + 2\pi) = \sin \theta$ $\cos(\theta + 2\pi) = \cos \theta$ $\tan(\theta + \pi) = -\tan \theta$ <p>Pythagorean Identities</p> $\sin^2 \theta + \cos^2 \theta = 1$ $\sec^2 \theta - \tan^2 \theta = 1$ $\csc^2 \theta - \cot^2 \theta = 1$ <p>Co-Function Identities</p> $\sin\left(\frac{\pi}{2} - \theta\right) = \cos \theta \quad \cos\left(\frac{\pi}{2} - \theta\right) = \sin \theta$ $\tan\left(\frac{\pi}{2} - \theta\right) = \cot \theta \quad \cot\left(\frac{\pi}{2} - \theta\right) = \tan \theta$ $\csc\left(\frac{\pi}{2} - \theta\right) = \sec \theta \quad \sec\left(\frac{\pi}{2} - \theta\right) = \csc \theta$ <p>Even or Odd Symmetry</p> $\sin(-\theta) = -\sin \theta \quad \cos(-\theta) = \cos \theta$ $\tan(-\theta) = -\tan \theta \quad \cot(-\theta) = -\cot \theta$ $\csc(-\theta) = -\csc \theta \quad \sec(-\theta) = \sec \theta$ <p>$\exp(\pm j\theta) = \cos \theta \pm j \sin \theta$</p> $\cos \theta = \frac{1}{2} [\exp(j\theta) + \exp(-j\theta)]$ $\sin \theta = \frac{1}{2j} [\exp(j\theta) - \exp(-j\theta)]$
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TABLE A6.2 Fourier-Transform Pairs			
Time Function	Fourier Transform		
$\text{rect}\left(\frac{t}{T}\right)$	$T \text{sinc}(fT)$	1	$\delta(f)$
$\text{sinc}(2Wt)$	$\frac{1}{2W} \text{rect}\left(\frac{f}{2W}\right)$	$\delta(t - t_0)$	$\exp(-j2\pi f t_0)$
$\exp(-at)u(t), \quad a > 0$	$\frac{1}{a + j2\pi f}$	$\exp(j2\pi f_c t)$	$\delta(f - f_c)$
$\exp(-a t), \quad a > 0$	$\frac{2a}{a^2 + (2\pi f)^2}$	$\cos(2\pi f_c t)$	$\frac{1}{2} [\delta(f - f_c) + \delta(f + f_c)]$
$\exp(-\pi t^2)$	$\exp(-\pi f^2)$	$\sin(2\pi f_c t)$	$\frac{1}{2j} [\delta(f - f_c) - \delta(f + f_c)]$
$\begin{cases} 1 - \frac{ t }{T}, & t < T \\ 0, & t \geq T \end{cases}$	$T \text{sinc}^2(fT)$	$\text{sgn}(t)$	$\frac{1}{j\pi f}$
$\delta(t)$	1	$\frac{1}{\pi t}$	$-j \text{sgn}(f)$
		$u(t)$	$\frac{1}{2} \delta(f) + \frac{1}{j2\pi f}$
		$\sum_{i=-\infty}^{\infty} \delta(t - iT_0)$	$\frac{1}{T_0} \sum_{n=-\infty}^{\infty} \delta\left(f - \frac{n}{T_0}\right)$

Table of Common Integrals	
$\int k \, dx = x + C$	$\int \csc^2 x \, dx = -\cot x + C$
$\int x^n \, dx = \frac{x^{n+1}}{n+1} + C$ for $n \neq -1$	$\int \sec x \tan x \, dx = \sec x + C$
$\int \frac{1}{x} \, dx = \ln x + C$	$\int \csc x \cot x \, dx = -\csc x + C$
$\int e^x \, dx = e^x + C$	$\int \tan x \, dx = \ln \sec x + C$
$\int a^x \, dx = \frac{a^x}{\ln a} + C$	$\int \cot x \, dx = \ln \sin x + C$
$\int \sin x \, dx = -\cos x + C$	$\int \sec x \, dx = \ln \sec x + \tan x + C$
$\int \cos x \, dx = \sin x + C$	$\int \csc x \, dx = \ln \csc x - \cot x + C$
$\int \sec^2 x \, dx = \tan x + C$	$\int \frac{dx}{\sqrt{a^2 - x^2}} = \sin^{-1}\left(\frac{x}{a}\right) + C$
$\int \csc^2 x \, dx = -\cot x + C$	$\int \frac{dx}{a^2 + x^2} = \frac{1}{a} \tan^{-1}\left(\frac{x}{a}\right) + C$

Table of Bessel Functions

β	$J_0(\beta)$	$J_1(\beta)$	$J_2(\beta)$	$J_3(\beta)$	$J_4(\beta)$	$J_5(\beta)$	$J_6(\beta)$	$J_7(\beta)$	$J_8(\beta)$	$J_9(\beta)$	$J_{10}(\beta)$
0	1	0	0	0	0	0	0	0	0	0	0
0.1	0.9975	0.0499	0.0012	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.2	0.9900	0.0995	0.0050	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.3	0.9776	0.1483	0.0112	0.0006	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.4	0.9604	0.1960	0.0197	0.0013	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.5	0.9385	0.2423	0.0306	0.0026	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.6	0.9120	0.2867	0.0437	0.0044	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.7	0.8812	0.3290	0.0588	0.0069	0.0006	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.8	0.8463	0.3688	0.0758	0.0102	0.0010	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
0.9	0.8075	0.4059	0.0946	0.0144	0.0016	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
1	0.7652	0.4401	0.1149	0.0196	0.0025	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000
1.1	0.7196	0.4709	0.1366	0.0257	0.0036	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000
1.2	0.6711	0.4983	0.1593	0.0329	0.0050	0.0006	0.0001	0.0000	0.0000	0.0000	0.0000
1.3	0.6201	0.5220	0.1830	0.0411	0.0068	0.0009	0.0001	0.0000	0.0000	0.0000	0.0000
1.4	0.5669	0.5419	0.2074	0.0505	0.0091	0.0013	0.0002	0.0000	0.0000	0.0000	0.0000
1.5	0.5118	0.5579	0.2321	0.0610	0.0118	0.0018	0.0002	0.0000	0.0000	0.0000	0.0000
1.6	0.4554	0.5699	0.2570	0.0725	0.0150	0.0025	0.0003	0.0000	0.0000	0.0000	0.0000
1.7	0.3980	0.5778	0.2817	0.0851	0.0188	0.0033	0.0005	0.0001	0.0000	0.0000	0.0000
1.8	0.3400	0.5815	0.3061	0.0988	0.0232	0.0043	0.0007	0.0001	0.0000	0.0000	0.0000
1.9	0.2818	0.5812	0.3299	0.1134	0.0283	0.0055	0.0009	0.0001	0.0000	0.0000	0.0000
2	0.2239	0.5767	0.3528	0.1289	0.0340	0.0070	0.0012	0.0002	0.0000	0.0000	0.0000
2.1	0.1666	0.5683	0.3746	0.1453	0.0405	0.0088	0.0016	0.0002	0.0000	0.0000	0.0000
2.2	0.1104	0.5560	0.3951	0.1623	0.0476	0.0109	0.0021	0.0003	0.0000	0.0000	0.0000
2.3	0.0555	0.5399	0.4139	0.1800	0.0556	0.0134	0.0027	0.0004	0.0001	0.0000	0.0000
2.4	0.0025	0.5202	0.4310	0.1981	0.0643	0.0162	0.0034	0.0006	0.0001	0.0000	0.0000
2.5	-0.0484	0.4971	0.4461	0.2166	0.0738	0.0195	0.0042	0.0008	0.0001	0.0000	0.0000
2.6	-0.0968	0.4708	0.4590	0.2353	0.0840	0.0232	0.0052	0.0010	0.0002	0.0000	0.0000
2.7	-0.1424	0.4416	0.4696	0.2540	0.0950	0.0274	0.0065	0.0013	0.0002	0.0000	0.0000
2.8	-0.1850	0.4097	0.4777	0.2727	0.1067	0.0321	0.0079	0.0016	0.0003	0.0000	0.0000
2.9	-0.2243	0.3754	0.4832	0.2911	0.1190	0.0373	0.0095	0.0020	0.0004	0.0001	0.0000
3	-0.2601	0.3391	0.4861	0.3091	0.1320	0.0430	0.0114	0.0025	0.0005	0.0001	0.0000
3.1	-0.2921	0.3009	0.4862	0.3264	0.1456	0.0493	0.0136	0.0031	0.0006	0.0001	0.0000
3.2	-0.3202	0.2613	0.4835	0.3431	0.1597	0.0562	0.0160	0.0038	0.0008	0.0001	0.0000
3.3	-0.3443	0.2207	0.4780	0.3588	0.1743	0.0637	0.0188	0.0047	0.0010	0.0002	0.0000
3.4	-0.3643	0.1792	0.4697	0.3734	0.1892	0.0718	0.0219	0.0056	0.0012	0.0002	0.0000
3.5	-0.3801	0.1374	0.4586	0.3868	0.2044	0.0804	0.0254	0.0067	0.0015	0.0003	0.0001
3.6	-0.3918	0.0955	0.4448	0.3988	0.2198	0.0897	0.0293	0.0080	0.0019	0.0004	0.0001
3.7	-0.3992	0.0538	0.4283	0.4092	0.2353	0.0995	0.0336	0.0095	0.0023	0.0005	0.0001
3.8	-0.4026	0.0128	0.4093	0.4180	0.2507	0.1098	0.0383	0.0112	0.0028	0.0006	0.0001
3.9	-0.4018	-0.0272	0.3879	0.4250	0.2661	0.1207	0.0435	0.0130	0.0034	0.0008	0.0002
4	-0.3971	-0.0660	0.3641	0.4302	0.2811	0.1321	0.0491	0.0152	0.0040	0.0009	0.0002
4.1	-0.3887	-0.1033	0.3383	0.4333	0.2958	0.1439	0.0552	0.0176	0.0048	0.0011	0.0002
4.2	-0.3766	-0.1386	0.3105	0.4344	0.3100	0.1561	0.0617	0.0202	0.0057	0.0014	0.0003
4.3	-0.3610	-0.1719	0.2811	0.4333	0.3236	0.1687	0.0688	0.0232	0.0067	0.0017	0.0004
4.4	-0.3423	-0.2028	0.2501	0.4301	0.3365	0.1816	0.0763	0.0264	0.0078	0.0020	0.0005
4.5	-0.3205	-0.2311	0.2178	0.4247	0.3484	0.1947	0.0843	0.0300	0.0091	0.0024	0.0006
4.6	-0.2961	-0.2566	0.1846	0.4171	0.3594	0.2080	0.0927	0.0340	0.0106	0.0029	0.0007
4.7	-0.2693	-0.2791	0.1506	0.4072	0.3693	0.2214	0.1017	0.0382	0.0122	0.0034	0.0008
4.8	-0.2404	-0.2985	0.1161	0.3952	0.3780	0.2347	0.1111	0.0429	0.0141	0.0040	0.0010
4.9	-0.2097	-0.3147	0.0813	0.3811	0.3853	0.2480	0.1209	0.0479	0.0161	0.0047	0.0012
5	-0.1776	-0.3276	0.0466	0.3648	0.3912	0.2611	0.1310	0.0534	0.0184	0.0055	0.0015

Q-Function

Definition

$$Q(x) = \frac{1}{\sqrt{2\pi}} \int_x^\infty e^{-t^2/2} dt$$

Good Approximation (good for programming in calculator)

$$Q(x) \approx \left[\frac{1}{(1-a)x + a\sqrt{x^2+b}} \right] \frac{1}{\sqrt{2\pi}} e^{-x^2/2},$$

where $a = 1/\pi$, $b = 2\pi$

Simple Upper Bound

$$Q(x) < \frac{1}{2} e^{-x^2/2}$$

Relation to Error Functions

$$Q(x) = \frac{1}{2} \operatorname{erfc}\left(\frac{x}{\sqrt{2}}\right), \quad \operatorname{erfc}(x) = 2Q(x\sqrt{2})$$

Property

$$Q(-x) = 1 - Q(x)$$

x	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.00	5.0000e-01	4.9601e-01	4.9202e-01	4.8803e-01	4.8405e-01	4.8006e-01	4.7608e-01	4.7210e-01	4.6812e-01	4.6414e-01
0.10	4.6017e-01	4.5620e-01	4.5224e-01	4.4828e-01	4.4433e-01	4.4038e-01	4.3644e-01	4.3251e-01	4.2858e-01	4.2465e-01
0.20	4.2074e-01	4.1683e-01	4.1294e-01	4.0905e-01	4.0517e-01	4.0129e-01	3.9743e-01	3.9358e-01	3.8974e-01	3.8591e-01
0.30	3.8209e-01	3.7828e-01	3.7448e-01	3.7070e-01	3.6693e-01	3.6317e-01	3.5942e-01	3.5569e-01	3.5197e-01	3.4827e-01
0.40	3.4458e-01	3.4090e-01	3.3724e-01	3.3360e-01	3.2997e-01	3.2636e-01	3.2276e-01	3.1918e-01	3.1561e-01	3.1207e-01
0.50	3.0854e-01	3.0503e-01	3.0153e-01	2.9806e-01	2.9460e-01	2.9116e-01	2.8774e-01	2.8434e-01	2.8096e-01	2.7760e-01
0.60	2.7425e-01	2.7093e-01	2.6763e-01	2.6435e-01	2.6109e-01	2.5785e-01	2.5463e-01	2.5143e-01	2.4825e-01	2.4510e-01
0.70	2.4196e-01	2.3885e-01	2.3576e-01	2.3270e-01	2.2965e-01	2.2663e-01	2.2363e-01	2.2065e-01	2.1770e-01	2.1476e-01
0.80	2.1186e-01	2.0897e-01	2.0611e-01	2.0327e-01	2.0045e-01	1.9766e-01	1.9489e-01	1.9215e-01	1.8943e-01	1.8673e-01
0.90	1.8406e-01	1.8141e-01	1.7879e-01	1.7619e-01	1.7361e-01	1.7106e-01	1.6853e-01	1.6602e-01	1.6354e-01	1.6109e-01
1.00	1.5866e-01	1.5625e-01	1.5386e-01	1.5151e-01	1.4917e-01	1.4686e-01	1.4457e-01	1.4231e-01	1.4007e-01	1.3786e-01
1.10	1.3567e-01	1.3350e-01	1.3136e-01	1.2924e-01	1.2714e-01	1.2507e-01	1.2302e-01	1.2100e-01	1.1900e-01	1.1702e-01
1.20	1.1507e-01	1.1314e-01	1.1123e-01	1.0935e-01	1.0749e-01	1.0565e-01	1.0383e-01	1.0204e-01	1.0027e-01	9.8525e-02
1.30	9.6800e-02	9.5098e-02	9.3418e-02	9.1759e-02	9.0123e-02	8.8508e-02	8.6915e-02	8.5343e-02	8.3793e-02	8.2264e-02
1.40	8.0757e-02	7.9270e-02	7.7804e-02	7.6359e-02	7.4934e-02	7.3529e-02	7.2145e-02	7.0781e-02	6.9437e-02	6.8112e-02
1.50	6.6807e-02	6.5522e-02	6.4255e-02	6.3008e-02	6.1780e-02	6.0571e-02	5.9380e-02	5.8208e-02	5.7053e-02	5.5917e-02
1.60	5.4799e-02	5.3699e-02	5.2616e-02	5.1551e-02	5.0503e-02	4.9471e-02	4.8457e-02	4.7460e-02	4.6479e-02	4.5514e-02
1.70	4.4565e-02	4.3633e-02	4.2716e-02	4.1815e-02	4.0930e-02	4.0059e-02	3.9204e-02	3.8364e-02	3.7538e-02	3.6727e-02
1.80	3.5930e-02	3.5148e-02	3.4380e-02	3.3625e-02	3.2884e-02	3.2157e-02	3.1443e-02	3.0742e-02	3.0054e-02	2.9379e-02
1.90	2.8717e-02	2.8067e-02	2.7429e-02	2.6803e-02	2.6190e-02	2.5588e-02	2.4998e-02	2.4419e-02	2.3852e-02	2.3295e-02

x	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
2.00	2.2750e-02	2.2216e-02	2.1692e-02	2.1178e-02	2.0675e-02	2.0182e-02	1.9699e-02	1.9226e-02	1.8763e-02	1.8309e-02
2.10	1.7864e-02	1.7429e-02	1.7003e-02	1.6586e-02	1.6177e-02	1.5778e-02	1.5386e-02	1.5003e-02	1.4629e-02	1.4262e-02
2.20	1.3903e-02	1.3553e-02	1.3209e-02	1.2874e-02	1.2545e-02	1.2224e-02	1.1911e-02	1.1604e-02	1.1304e-02	1.1011e-02
2.30	1.0724e-02	1.0444e-02	1.0170e-02	9.9031e-03	9.6419e-03	9.3867e-03	9.1375e-03	8.8940e-03	8.6563e-03	8.4242e-03
2.40	8.1975e-03	7.9763e-03	7.7603e-03	7.5494e-03	7.3436e-03	7.1428e-03	6.9469e-03	6.7557e-03	6.5691e-03	6.3872e-03
2.50	6.2097e-03	6.0366e-03	5.8677e-03	5.7031e-03	5.5426e-03	5.3861e-03	5.2336e-03	5.0849e-03	4.9400e-03	4.7988e-03
2.60	4.6612e-03	4.5271e-03	4.3965e-03	4.2692e-03	4.1453e-03	4.0246e-03	3.9070e-03	3.7926e-03	3.6811e-03	3.5726e-03
2.70	3.4670e-03	3.3642e-03	3.2641e-03	3.1667e-03	3.0720e-03	2.9798e-03	2.8901e-03	2.8028e-03	2.7179e-03	2.6354e-03
2.80	2.5551e-03	2.4771e-03	2.4012e-03	2.3274e-03	2.2557e-03	2.1860e-03	2.1182e-03	2.0524e-03	1.9884e-03	1.9262e-03
2.90	1.8658e-03	1.8071e-03	1.7502e-03	1.6948e-03	1.6411e-03	1.5889e-03	1.5382e-03	1.4890e-03	1.4412e-03	1.3949e-03
3.00	1.3499e-03	1.3062e-03	1.2639e-03	1.2228e-03	1.1829e-03	1.1442e-03	1.1067e-03	1.0703e-03	1.0350e-03	1.0008e-03
3.10	9.6760e-04	9.3544e-04	9.0426e-04	8.7403e-04	8.4474e-04	8.1635e-04	7.8885e-04	7.6219e-04	7.3638e-04	7.1136e-04
3.20	6.8714e-04	6.6367e-04	6.4095e-04	6.1895e-04	5.9765e-04	5.7703e-04	5.5706e-04	5.3774e-04	5.1904e-04	5.0094e-04
3.30	4.8342e-04	4.6648e-04	4.5009e-04	4.3423e-04	4.1889e-04	4.0406e-04	3.8971e-04	3.7584e-04	3.6243e-04	3.4946e-04
3.40	3.3693e-04	3.2481e-04	3.1311e-04	3.0179e-04	2.9086e-04	2.8029e-04	2.7009e-04	2.6023e-04	2.5071e-04	2.4151e-04
3.50	2.3263e-04	2.2405e-04	2.1577e-04	2.0778e-04	2.0006e-04	1.9262e-04	1.8543e-04	1.7849e-04	1.7180e-04	1.6534e-04
3.60	1.5911e-04	1.5310e-04	1.4730e-04	1.4171e-04	1.3632e-04	1.3112e-04	1.2611e-04	1.2128e-04	1.1662e-04	1.1213e-04
3.70	1.0780e-04	1.0363e-04	9.9611e-05	9.5740e-05	9.2010e-05	8.8417e-05	8.4957e-05	8.1624e-05	7.8414e-05	7.5324e-05
3.80	7.2348e-05	6.9483e-05	6.6726e-05	6.4072e-05	6.1517e-05	5.9059e-05	5.6694e-05	5.4418e-05	5.2228e-05	5.0122e-05
3.90	4.8096e-05	4.6148e-05	4.4274e-05	4.2473e-05	4.0741e-05	3.9076e-05	3.7475e-05	3.5936e-05	3.4458e-05	3.3037e-05
4.00	3.1671e-05	3.0359e-05	2.9099e-05	2.7888e-05	2.6726e-05	2.5609e-05	2.4536e-05	2.3507e-05	2.2518e-05	2.1569e-05
4.10	2.0658e-05	1.9783e-05	1.8944e-05	1.8138e-05	1.7365e-05	1.6624e-05	1.5912e-05	1.5230e-05	1.4575e-05	1.3948e-05
4.20	1.3346e-05	1.2769e-05	1.2215e-05	1.1685e-05	1.1176e-05	1.0689e-05	1.0221e-05	9.7736e-06	9.3447e-06	8.9337e-06
4.30	8.5399e-06	8.1627e-06	7.8015e-06	7.4555e-06	7.1241e-06	6.8069e-06	6.5031e-06	6.2123e-06	5.9340e-06	5.6675e-06
4.40	5.4125e-06	5.1685e-06	4.9350e-06	4.7117e-06	4.4979e-06	4.2935e-06	4.0980e-06	3.9110e-06	3.7322e-06	3.5612e-06
4.50	3.3977e-06	3.2414e-06	3.0920e-06	2.9492e-06	2.8127e-06	2.6823e-06	2.5577e-06	2.4386e-06	2.3249e-06	2.2162e-06
4.60	2.1125e-06	2.0133e-06	1.9187e-06	1.8283e-06	1.7420e-06	1.6597e-06	1.5810e-06	1.5060e-06	1.4344e-06	1.3660e-06
4.70	1.3008e-06	1.2386e-06	1.1792e-06	1.1226e-06	1.0686e-06	1.0171e-06	9.6796e-07	9.2113e-07	8.7648e-07	8.3391e-07
4.80	7.9333e-07	7.5465e-07	7.1779e-07	6.8267e-07	6.4920e-07	6.1731e-07	5.8693e-07	5.5799e-07	5.3043e-07	5.0418e-07
4.90	4.7918e-07	4.5538e-07	4.3272e-07	4.1115e-07	3.9061e-07	3.7107e-07	3.5247e-07	3.3476e-07	3.1792e-07	3.0190e-07
5.00	2.8665e-07	2.7215e-07	2.5836e-07	2.4524e-07	2.3277e-07	2.2091e-07	2.0963e-07	1.9891e-07	1.8872e-07	1.7903e-07
5.10	1.6983e-07	1.6108e-07	1.5277e-07	1.4487e-07	1.3737e-07	1.3024e-07	1.2347e-07	1.1705e-07	1.1094e-07	1.0515e-07
5.20	9.9644e-08	9.4420e-08	8.9462e-08	8.4755e-08	8.0288e-08	7.6050e-08	7.2028e-08	6.8212e-08	6.4592e-08	6.1158e-08
5.30	5.7901e-08	5.4813e-08	5.1884e-08	4.9106e-08	4.6473e-08	4.3977e-08	4.1611e-08	3.9368e-08	3.7243e-08	3.5229e-08
5.40	3.3320e-08	3.1512e-08	2.9800e-08	2.8177e-08	2.6640e-08	2.5185e-08	2.3807e-08	2.2502e-08	2.1266e-08	2.0097e-08
5.50	1.8990e-08	1.7942e-08	1.6950e-08	1.6012e-08	1.5124e-08	1.4283e-08	1.3489e-08	1.2737e-08	1.2026e-08	1.1353e-08
5.60	1.0718e-08	1.0116e-08	9.5479e-09	9.0105e-09	8.5025e-09	8.0224e-09	7.5686e-09	7.1399e-09	6.7347e-09	6.3520e-09
5.70	5.9904e-09	5.6488e-09	5.3262e-09	5.0215e-09	4.7338e-09	4.4622e-09	4.2057e-09	3.9636e-09	3.7350e-09	3.5193e-09
5.80	3.3157e-09	3.1236e-09	2.9424e-09	2.7714e-09	2.6100e-09	2.4579e-09	2.3143e-09	2.1790e-09	2.0513e-09	1.9310e-09
5.90	1.8175e-09	1.7105e-09	1.6097e-09	1.5147e-09	1.4251e-09	1.3407e-09	1.2612e-09	1.1863e-09	1.1157e-09	1.0492e-09