OPTN

Mini-Brief

Clarifications to the Continuous Distribution of Lungs

OPTN Lung Transplantation Committee

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Clarifications to the Continuous Distribution of Lungs

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Sponsoring Committee:	*Lung Transplantation*
Executive Committee Meeting:	*October 26, 2022*

Purpose

This clarification would amend continuous distribution lung allocation policy in order to:

- Delay implementation of distance calculation until a consistent approach can be established across organs, and clarify placement efficiency equations
- Clarify requirements for assignment to pediatric priority 1
- Clarify requirements for updating clinical values every 28 days for certain candidates
- Clarify how supplemental oxygen and functional status factor into the composite allocation score
- Update probability table for post-transplant survival calculation

Proposed Clarifications

Distance Calculation

Because the Earth is not a perfect sphere, there are several methods for calculating distance between two points. To calculate distance for allocation, the OPTN uses the Haversine method and calculates distance to two decimal places. For continuous distribution of lungs, the OPTN opted to continue using the Haversine method but proposed to round distances down to the nearest integer to avoid projecting a false sense of precision.[1] This change was specified in OPTN *Policy 21.1.D: Efficient Management Formulas*.[2] The policy was written to apply only to lung allocation with the intent that other organs would convert to this new method as they transitioned to continuous distribution.

[1] David G. Robinson, "The Kidney Transplant Algorithm's Surprising Lessons for Ethical A.I," *Slate*, August 31, 2022, accessed October 3, 2022, https://slate.com/technology/2022/08/kidney-allocation-algorithm-ai-ethics.html.
[2] "Establish Continuous Distribution of Lungs," OPTN, Notice of OPTN Policy Changes, accessed September 29, 2022, https://optn.transplant.hrsa.gov/media/b13dlep2/policy-notice_lung_continuous-distribution.pdf.

During implementation, it became apparent that this transition would likely cause confusion to members. For example, if lung allocation calculated two hospitals to be 199 nautical miles apart and liver allocation calculated the same hospitals to be 201 nautical miles apart, this could cause confusion as to which distance was accurate, particularly for lung-liver candidates who would appear on both the lung and liver match runs. The OPTN considered changing the calculation for all organs to round down to the nearest integer, but determined that this approach would require a policy change for all other organs and an associated public comment period. Accordingly, the Lung Transplantation Committee (the Committee) proposes continuing to use the currently implemented distance calculation until such time as all organs are ready to convert to the new distance calculation. This will have minimal impact on the continuous distribution of lungs but avoids potentially substantial confusion and changes to other organ systems. Long term, the Committee recommends that the OPTN move toward the distance calculation approved by the Board of Directors as part of *Establish Continuous Distribution of Lungs*.[3]

The Committee also proposes clarifying in *Policy 10.1 Lung Composite Allocation Score* and *Policy 10.1.E Promoting the Efficient Management of the Organ Placement System* that “efficiency” scores refer to “placement” efficiency. Additionally, in the approved policy language, the equations for travel efficiency points and proximity efficiency points were transposed in *Policy 21.1.D Efficient Management Formulas*. This clarification moves the equations to the intended points definition.

Pediatric Priority 1

The Committee proposes striking the language from *Policy 10.1.A.2.a Candidates Less than 12 Years Old - Priority 1* stating that “The OPTN will maintain examples of accepted medical therapy for pulmonary hypertension. Transplant programs must indicate which of these medical therapies the candidate has received.” This change represents a stylistic shift away from specifying in policy how the policies are monitored for member compliance, as this information is more appropriately captured in other guidance or help documentation where relevant. Lung candidates less than 12 years old may be assigned to priority 1 if they meet the requirements listed in the policy.

Furthermore, the Committee proposes clarifying in *Policy 10.3.B Lung Clinical Values That Must Be Updated Every Six Months* that candidates who are less than 12 years old and are assigned priority 1 based on evidence of respiratory failure in accordance with *Policy 10.1.A.2.a Candidates Less than 12 Years Old - Priority 1* will be assigned to priority 2 when the clinical values that qualify the candidates for priority 1 are greater than six months old.

Update Clinical Values Every 28 Days

The Committee proposes updating OPTN *Policy 10.3.A Lung Clinical Values That Must Be Updated Every 28 Days* to clarify the timeline for reporting updated values and to clarify that a high flow oxygen device specifically refers to a high flow nasal cannula. This policy requires transplant programs to update the supplemental oxygen and assisted ventilation data fields every 28 days for candidates on continuous mechanical ventilation or extracorporeal membrane oxygenation (ECMO), as well as for candidates receiving supplemental oxygen via high flow nasal cannula. When transplant programs update these data fields, they also update the associated date for those fields. The 28-day timeline is based on the date entered for these fields. In other words, the 28 days start when the candidate’s oxygen needs were assessed, which might be different from the day on which the candidate’s oxygen needs were reported in OPTN Waiting List. Once a candidate is no longer on continuous mechanical ventilation, ECMO, or a high flow nasal cannula, the transplant program is no longer required to update the supplemental

[3] Ibid.

oxygen and assisted ventilation every 28 days. Instead, the transplant program would need to update those values every six months as required by OPTN *Policy 10.3.B Lung Clinical Values That Must Be Updated Every Six Months*.

Supplemental Oxygen

The data field for "Requires Supplemental O_2" allows transplant programs to indicate when their candidates require supplemental oxygen. Transplant programs can report that supplemental oxygen is not needed, or report the amount of supplemental oxygen required at rest, at night, or with exercise only. The system does not currently allow transplant programs to enter amounts of supplemental oxygen required at different activity levels. For example, a transplant program cannot enter values for the same candidate for both their oxygen needs at rest and their oxygen needs with exercise. However, only values entered for supplemental oxygen required at rest are used in calculating the lung composite allocation score. Accordingly, the Committee proposes clarifications to *Policy 10.3.A Lung Clinical Values That Must Be Updated Every 28 Days* and *Policy 10.3.B Lung Clinical Values That Must Be Updated Every Six Months* to indicate that transplant programs are required to updated the supplemental oxygen field in accordance with those policies regardless of whether "not needed," "at rest," "at night," or "with exercise only" are selected. Furthermore, the Committee proposes clarifying that only values submitted for the amount of supplemental oxygen needed at rest are used in the allocation score via updates to the *21.2.A Values Used in the Calculation of Lung Waiting List Survival*.

Functional Status

For functional status, transplant programs may report that their candidate either requires no assistance with activities of daily living, some assistance with activities of daily living, or total assistance with activities of daily living. This variable factors into both the waiting list survival calculation and the post-transplant survival calculation. For the post-transplant survival calculation, the Committee proposes clarifying *Policy 21.2.B.1 Coefficients Used in Calculating Lung Post-Transplant Outcomes* to reflect that candidates who need some assistance with activites of daily living are assigned a coefficient of 0 for that variable, whereas candidates who need total assistance with activities of daily living are assigned a coefficient of 0.074378407 for that variable.

Post-transplant Survival Probability Table

Policy 21.2.B.2 Probabilities Used in Calculating Lung Post-Transplant Survival includes a table that displays the baseline post-transplant survival probability as a function of time in days. The Committee proposes updating this table to reflect that the baseline survival probability at 0 days post-transplant is 1, and the baseline survival probability at 1826 days post-transplant is 0.756168.

Implementation

The Committee proposes implementing these clarifications along with the implementation of *Establish Continuous Distribution of Lungs*[4] in early 2023.

[4] Ibid.

Policy Language

Proposed new language is underlined (example) and language that is proposed for removal is struck through (~~example~~). […] signifies language in current OPTN policy that is not presented here for the purposes of brevity and will not be affected by this proposal.

RESOLVED, that the changes to *Policies 10.1: Lung Composite Allocation Score*, *10.1.A.2.a: Candidates Less than 12 Years Old - Priority 1*, *10.1.E: Promoting the Efficient Management of the Organ Placement System*, *10.3.A: Lung Clinical Values That Must Be Updated Every 28 Days*, *10.3.B: Lung Clinical Values That Must Be Updated Every Six Months*, *21.1.D: Efficient Management Formulas*, *21.2.A: Values Used in the Calculation of Lung Waiting List Survival*, *21.2.B.1: Coefficients Used in Calculating Lung Post-Transplant Outcomes*, and *21.2.B.2: Probabilities Used in Calculating Lung Post-Transplant Survival*, as set forth below, are hereby approved, effective pending implementation and notice to OPTN members.

10.1 Lung Composite Allocation Score

The lung composite allocation score is the combined total of the candidate's lung medical urgency score, lung post-transplant outcomes score, lung biological disadvantages score, lung patient access score and lung placement efficiency score. The lung composite allocation score is awarded on a scale from 0 to 100.

Candidates will be rank-ordered by lung composite allocation score. If two or more candidates have the same lung composite allocation score, the tied candidates will be ranked by order of their registration date (oldest to newest).

[…]

10.1.A.2.a Candidates Less than 12 Years Old - Priority 1

A lung candidate less than 12 years old may be assigned priority 1 if at least *one* of the following requirements is met:

1. Candidate has respiratory failure, evidenced by at least *one* of the following:
   - Requires continuous mechanical ventilation
   - Requires supplemental oxygen delivered by any means to achieve FiO_2 greater than 50% in order to maintain oxygen saturation levels greater than 90%
   - Has an arterial or capillary PCO_2 greater than 50 mm Hg
   - Has a venous PCO_2 greater than 56 mm Hg

2. Candidate has pulmonary hypertension, evidenced by at least *one* of the following:
   - Has pulmonary vein stenosis involving 3 or more vessels
   - Exhibits *any* of the following, in spite of medical therapy:
     - Cardiac index less than 2 $L/min/M^2$
     - Syncope
     - Hemoptysis

- Suprasystemic PA pressure on cardiac catheterization or by echocardiogram estimate

~~The OPTN will maintain examples of accepted medical therapy for pulmonary hypertension. Transplant programs must indicate which of these medical therapies the candidate has received.~~

10.1.E Promoting the Efficient Management of the Organ Placement System

The lung placement efficiency score is the total of the candidate's lung travel efficiency and lung proximity efficiency points.

10.3.A Lung Clinical Values That Must Be Updated Every 28 Days

~~A transplant hospital must update *all* of the following clinical values at least once in every 28 day period after the transplant hospital reports that a candidate on the lung waiting list is on continuous mechanical ventilation or ECMO, or requires supplemental oxygen provided via a high flow oxygen device:~~

When a transplant program reports that a candidate on the lung waiting list is on continuous mechanical ventilation or ECMO, or requires supplemental oxygen provided via a high flow nasal cannula, the program must report the following values, assessed within the 28 days preceding the report:

- Amount of supplemental ~~Supplemental~~ oxygen required ~~requirements~~ to maintain adequate oxygen saturation (88% or greater) ~~at rest (L/min)~~
- Assisted ventilation status

The transplant program must continue to assess and report the amount of supplemental oxygen required to maintain adequate oxygen saturation (88% or greater) and assisted ventilation status every 28 days following the most recent assessment while the candidate remains on continuous mechanical ventilation or ECMO, or continues to require supplemental oxygen provided via a high flow nasal cannula.

10.3.B Lung Clinical Values That Must Be Updated Every Six Months

Transplant hospitals must update *all* of the following clinical values at least once in every six month period following registration for each candidate on the lung waiting list:

- Bilirubin (mg/dL) value with the most recent test date and time
- Weight to determine body mass index (BMI) (kg/m2)
- Creatinine (serum) (mg/dL) value with the most recent test date and time
- Functional Status
- ~~Supplemental oxygen requirements~~ Amount of supplemental oxygen required to maintain adequate oxygen saturation (88% or greater) ~~at rest~~ (L/min)
- PCO_2 (mm Hg)
- Six-minute-walk distance (feet) obtained while the candidate is receiving supplemental oxygen required to maintain an oxygen saturation of 88% or greater at rest. Increase in supplemental oxygen during this test is at the discretion of the center performing the test.
- Assisted ventilation status

The transplant program must maintain source documentation for all clinical values reported in the candidate's medical chart.

Candidates who are less than 12 years old and are assigned priority 1 based on evidence of respiratory failure in accordance with *Policy 10.1.A.2.a Candidates Less than 12 Years Old - Priority 1* will be assigned to priority 2 if the clinical values that qualify the candidates for priority 1 are more than six months old on the six-month anniversary of the candidate's listing date.

21.1.D Efficient Management Formulas

21.1.D.1 Lung Travel Efficiency Points

The Lung travel efficiency points are equal to

~~(I{NM ≤ 45} + I{NM ∈ (45,90)}*(1 – 0.15 / 45 * (NM – 45)) + I{NM ≥ 90}*0.875 / [1 + exp(0.0025 * (NM – 1500))]])*5~~

(1 – [6.3*NM + 247.63 * (NM – 43.44) * I{NM > 43.44} – 104.44 * (NM – 67.17) * I{NM > 67.17} – 128.34 * (NM – 86.9) * I{NM > 86.9}] / 116989.1)*5

The variable NM represents straight-line distance between donor hospital and candidate hospital in nautical miles~~, rounded down to the nearest integer~~.

21.1.D.2 Lung Proximity Efficiency Points

The lung proximity efficiency points are equal to

~~(1 – [6.3*NM + 247.63 * (NM – 43.44) * I{NM > 43.44} – 104.44 * (NM – 67.17) * I{NM > 67.17} – 128.34 * (NM – 86.9) * I{NM > 86.9}] / 116989.1)*5~~

(I{NM ≤ 45} + I{NM ∈ (45,90)}*(1 – 0.15 / 45 * (NM – 45)) + I{NM ≥ 90}*0.875 / [1 + exp(0.0025 * (NM – 1500))]])*5

The variable NM represents straight-line distance between donor hospital and candidate hospital in nautical miles~~, rounded down to the nearest integer.~~

21.2.A Values Used in the Calculation of Lung Waiting List Survival

Table 21-3 provides the covariates and their coefficients for the waiting list mortality calculation. See *Policy 10.1.F.i: Lung Disease Diagnosis Groups* for specific information on each diagnosis group.

Table 21-3: Waiting List Survival Calculation: Covariates and their Coefficients

For this covariate:	When	The following coefficient is used in the lung waiting list survival calculation:
Age at the time of the match run (fractional calendar year)	All candidates	0.0281444188123287*age
Bilirubin (mg/dL) value with the most recent test date and time	Bilirubin is more than 1.0 mg/dL	0.15572123729572*(bilirubin – 1)
	1.0 mg/dL or less	0

For this covariate:	When	The following coefficient is used in the lung waiting list survival calculation:
Body mass index (BMI) (kg/m^2)	BMI less than 20 kg/m^2	0.10744133677215*(20 – BMI)
	BMI is at least 20 kg/m^2	0
Assisted ventilation	ECMO or continuous mechanical-hospitalized	1.57618530736936
	Not ECMO or continuous mechanical-hospitalized	0
Creatinine (serum) (mg/dL) with the most recent test date and time	Candidate is at least 18 years old	0.0996197163645* creatinine
	Candidate is less than 18 years old	0
Diagnosis Group	A	0
Diagnosis Group	B	1.26319338239175
Diagnosis Group	C	1.78024171092307
Diagnosis Group	D	1.51440083414275
Detailed diagnosis within group A	Bronchiectasis	0.40107198445555
	Sarcoidosis with PA mean pressure of 30 mm Hg or less	1.39885489102977
	Sarcoidosis with PA mean pressure missing	1.39885489102977
Detailed Diagnosis within group D	COVID-19: pulmonary fibrosis	0.2088684500011
	Pulmonary fibrosis, other	0.2088684500011
	Sarcoidosis with PA mean pressure greater than 30 mm Hg	-0.64590852776042

For this covariate:	When	The following coefficient is used in the lung waiting list survival calculation:
Functional Status	No assistance needed with activities of daily living	-0.59790409246653
	Some or total assistance needed with activities of daily living	0
Amount of supplemental oxygen required ~~Oxygen needed~~ to maintain adequate oxygen saturation (88% or greater) ~~at rest~~ (L/min)	At rest, Diagnosis Group B	0.0340531822566417*O_2
	At rest, Diagnosis Groups A, C, and D	0.08232292818591*O_2
	Not needed at rest	0
PCO_2 (mm Hg): current	PCO_2 is at least 40 mm Hg	0.12639905519026*PCO_2/10
PCO_2 threshold change	PCO_2 increase is at least 15%	0.15556911866376
	PCO_2 increase is less than 15%	0
Pulmonary artery (PA) systolic pressure (mm Hg) at rest, prior to any exercise	Diagnosis Group A and the PA systolic pressure is greater than 40 mm Hg	0.55767046368853*(PA systolic – 40)/10
	Diagnosis Group A and the PA systolic pressure is 40 mm Hg or less	0
	Diagnosis Groups B, C, and D	0.1230478043299*PA systolic/10

For this covariate:	When	The following coefficient is used in the lung waiting list survival calculation:
Six-minute-walk distance (feet)	Obtained while the candidate is receiving supplemental oxygen required to maintain an oxygen saturation of 88% or greater at rest.	-0.09937981549564*Six-minute-walk distance/100

If values for certain covariates are missing, expired, or below the threshold as defined by *Table 21-4*, then the composite allocation score calculation will substitute normal or least beneficial values to calculate the candidate's waiting list survival score. *Table 21-4* lists the normal and least beneficial values that will be substituted.

Table 21-4: Values Substituted for Missing or Expired Actual Values in Calculating Waiting List Survival Score

If this covariate's value:	Is:	Then the waiting list survival calculation will use this substituted value:
Bilirubin	Missing, expired, or less than 0.7 mg/dL	0.7 mg/dL
Height or weight to determine body mass index (BMI)	Missing	100 kg/m^2
Weight to determine BMI	Expired	100 kg/m^2
Assisted ventilation	Missing or expired	No mechanical ventilation
Creatinine (serum) (mg/dL)	Missing or expired	0.1 mg/dL
Functional status	Missing or expired	No assistance needed
Amount of supplemental oxygen required ~~Oxygen needed~~ to maintain adequate oxygen saturation (88% or greater) ~~at rest~~ (L/min)	Missing or expired	No supplemental oxygen needed at rest
PCO_2	Missing, expired, or less than 40 mm Hg	40 mm Hg
Pulmonary artery (PA) systolic pressure	Missing or less than 20 mm Hg	20 mm Hg
Six-minute-walk distance	Missing or expired	4,000 feet

21.2.B Values Used in the Calculation of Post-Transplant Outcomes

21.2.B.1 Coefficients Used in Calculating Lung Post-Transplant Outcomes

Table 21-6: Post-Transplant Outcomes Calculation: Covariates and Their Coefficients lists the covariates and corresponding coefficients in the waiting list and post-transplant survival measures. See *Policy 10.1.F: Lung Disease Diagnosis Groups* for specific information on each diagnosis group.

Table 21-6: Post-Transplant Outcomes Calculation: Covariates and Their Coefficients

For this covariate	When	The following coefficient is used in the lung post-transplant outcomes score calculation
Age at the time of the match run (fractional calendar year)	age is less than 20	0.0676308559079852 x (20 - age) + 0.78241832
	age is at least 20 and less than 30,	-0.0782418319259552 x (age - 20) + 0.78241832
	age is at least 30 and less than 40	0
	age is at least 40 and less than 50	0.0025908121347866 x (age - 40)
	age is at least 50 and less than 60	0.0167463361760962 x (age - 50) + 0.02590812
	age is at least 60 and less than 70	0.0227144625797883 x (age - 60) + 0.19337148
	age is at least 70	0.0612288624399672 x (age - 70) + 0.42051611
Creatinine (serum) (mg/dL) with the most recent test date and time	creatinine is less than 0.4 and candidate is at least 18 years old	-7.4016726145812200 x (0.4 - creatinine) + 0.41872820
	creatinine is at least 0.4 and less than 0.6 and candidate is at least 18 years old	-1.2584103289549000 x (creatinine - 0.4) + 0.41872820
	creatinine is at least 0.6 and less than 0.8 and candidate is at least 18 years old	0.3712348866558860 x (creatinine - 0.6) + 0.16704614
	creatinine is at least 0.8 and less than 1.4 and candidate is at least 18 years old	0.6844301806854400 x (creatinine - 0.8) + 0.24129311
	creatinine is at least 1.4 and candidate is at least 18 years old	0.6881894154264970 x (creatinine - 1.4) + 0.65195122
	Candidate is less than 18 years old	0
Cardiac index (L/min/m^2) at rest, prior to any exercise	Less than 2 L/min/m^2	-0.4837491139906200 x (2 – cardiac index) + 0.04030226
	At least 2 and less than 2.5 L/min/m^2	-0.0806045255202868 x (cardiac index - 2) + 0.04030226

For this covariate	When	The following coefficient is used in the lung post-transplant outcomes score calculation
	At least 2.5 and less than 3.5 L/min/m^2	0.0136169358319050 x (cardiac index - 2.5)
	At least 3.5 and less than 4.5 L/min/m^2	0.0808432592591954 x (cardiac index - 3.5) + 0.01361694
	At least 4.5 and less than 5 L/min/m^2	0.0696938839239190 x (cardiac index - 4.5) + 0.09446020
	At least 5 L/min/m^2	-0.0023264599609358 x (cardiac index - 5) + 0.12930714
Assisted ventilation	ECMO or continuous mechanical-hospitalized	0.267537018672253
	not ECMO or continuous mechanical-hospitalized	0
Diagnosis Group	A	-0.098901796
	B	0
	C	-0.167126401
	D	0
Detailed diagnosis within Group A	Bronchiectasis	-0.026706663
	Lymphangioleiomyomatosis	-0.271420386
	Sarcoidosis with PA mean pressure of 30 mm Hg or less	0.501743373724746
	Sarcoidosis with PA mean pressure missing	0.501743373724746
Detailed diagnosis within Group D	COVID-19: pulmonary fibrosis	0.046504644
	Obliterative bronchiolitis (non-retransplant)	-0.132634978
	Constrictive bronchiolitis	-0.132634978
	Sarcoidosis with PA mean pressure greater than 30 mm Hg	0.0561853179859775
	Pulmonary fibrosis, other	0.046504644
Functional Status	No assistance needed with activities of daily living	-0.005304128
	Some assistance needed with activities of daily living	0
	~~Some or total~~ Total assistance needed with activities of daily living	0.074378407
Six-minute-walk distance (feet) obtained while candidate is receiving supplemental oxygen	Less than 200 feet	-0.0002535116049789 x (200 - Six-minute-walk distance) + 0.11168755

For this covariate	When	The following coefficient is used in the lung post-transplant outcomes score calculation
required to maintain an oxygen saturation of 88% or greater at rest. Increase in supplemental oxygen during this test is at the discretion of the center performing the test.	At least 200 feet and less than 600 feet	-0.0002841805913329 x (Six-minute-walk distance - 200) + 0.11168755
	At least 600 feet and less than 800 feet	-0.0000049617083362 x (Six-minute-walk distance - 600) - 0.00198468
	At least 800 feet and less than 1,200 feet	-0.0001950464256370 x (Six-minute-walk distance - 800) - 0.00297703
	At least 1,200 feet and less than 1,600 feet	-0.0007428583659073 x (Six-minute-walk distance - 1200) - 0.08099560
	At least 1,600 feet	0.0035374143842919 x (Six-minute-walk distance - 1600) - 0.37813894

[…]

21.2.B.2 Probabilities Used in Calculating Lung Post-Transplant Survival

Table 21-8: Baseline Post-Transplant Survival ($S_{TX}(t)$) Probability Where t=Time in Days

t	$S_{TX}(t)$	t	$S_{TX}(t)$	t	$S_{TX}(t)$	t	$S_{TX}(t)$
0	1	19	0.98864	38	0.982225	57	0.977653
1	0.999154	20	0.988287	39	0.981616	58	0.977347
2	0.998058	21	0.988086	40	0.981363	59	0.977195
3	0.997111	22	0.987633	41	0.981007	60	0.977042
4	0.996312	23	0.98738	42	0.980957	61	0.976634
5	0.995562	24	0.986977	43	0.980652	62	0.976431
6	0.995162	25	0.986574	44	0.980297	63	0.976125
7	0.994562	26	0.986473	45	0.980144	64	0.976074
8	0.994011	27	0.986069	46	0.980043	65	0.975921
9	0.99336	28	0.985917	47	0.97989	66	0.975717
10	0.992859	29	0.985463	48	0.979687	67	0.975666
11	0.992107	30	0.984907	49	0.979484	68	0.975513
12	0.991806	31	0.984705	50	0.979484	69	0.975411
13	0.991154	32	0.984048	51	0.979179	70	0.975156
14	0.990802	33	0.983592	52	0.978772	71	0.974748
15	0.99025	34	0.98344	53	0.978772	72	0.974645
16	0.989747	35	0.983238	54	0.978467	73	0.974441
17	0.989294	36	0.982731	55	0.978162	74	0.974339
18	0.988942	37	0.982478	56	0.977857	75	0.974339

t	$S_{TX}(t)$
76	0.974339
77	0.974288
78	0.974186
79	0.974083
80	0.973981
81	0.973879
82	0.973828
83	0.973726
84	0.973675
85	0.973572
86	0.97347
87	0.973214
88	0.972908
89	0.972703
90	0.972549
91	0.972549
92	0.972396
93	0.972396
94	0.972242
95	0.971884
96	0.971884
97	0.971782
98	0.971474
99	0.971423
100	0.971064
101	0.970808
102	0.970757
103	0.970552
104	0.970398
105	0.970398
106	0.970346
107	0.970193
108	0.969987
109	0.969885
110	0.969731
111	0.969474
112	0.969423
113	0.969269
114	0.969115
115	0.968755
116	0.968652
117	0.968395

t	$S_{TX}(t)$
118	0.968292
119	0.967984
120	0.967932
121	0.967675
122	0.967572
123	0.967469
124	0.967315
125	0.967161
126	0.967161
127	0.966955
128	0.966903
129	0.966852
130	0.966749
131	0.966697
132	0.966646
133	0.966543
134	0.966543
135	0.96644
136	0.966388
137	0.966131
138	0.965925
139	0.965925
140	0.965615
141	0.965461
142	0.965358
143	0.965254
144	0.965151
145	0.964842
146	0.96479
147	0.964481
148	0.964377
149	0.964223
150	0.964068
151	0.963913
152	0.963913
153	0.963655
154	0.963345
155	0.963241
156	0.963138
157	0.963035
158	0.96288
159	0.962724

t	$S_{TX}(t)$
160	0.962621
161	0.962518
162	0.962414
163	0.962311
164	0.962207
165	0.962052
166	0.961845
167	0.961741
168	0.961638
169	0.961586
170	0.961483
171	0.961275
172	0.961224
173	0.961017
174	0.960913
175	0.960706
176	0.96055
177	0.960447
178	0.960239
179	0.960187
180	0.960032
181	0.959928
182	0.959876
183	0.959565
184	0.959513
185	0.959358
186	0.95915
187	0.958994
188	0.958943
189	0.958839
190	0.958579
191	0.958475
192	0.958164
193	0.958008
194	0.957852
195	0.9578
196	0.9578
197	0.957644
198	0.957384
199	0.957176
200	0.957072
201	0.956864

t	$S_{TX}(t)$
202	0.956604
203	0.956396
204	0.95624
205	0.955928
206	0.955824
207	0.955772
208	0.955511
209	0.955303
210	0.955147
211	0.954886
212	0.95473
213	0.954678
214	0.954469
215	0.954313
216	0.954156
217	0.954052
218	0.954
219	0.953843
220	0.953739
221	0.953634
222	0.953478
223	0.953269
224	0.95306
225	0.952956
226	0.952799
227	0.952642
228	0.952329
229	0.952277
230	0.952016
231	0.951963
232	0.951702
233	0.95165
234	0.95144
235	0.951074
236	0.950813
237	0.950603
238	0.950446
239	0.950342
240	0.950342
241	0.950289
242	0.950185
243	0.950028

t	$S_{TX}(t)$
244	0.949923
245	0.949713
246	0.949713
247	0.949556
248	0.949556
249	0.949399
250	0.949137
251	0.949085
252	0.949032
253	0.94898
254	0.94877
255	0.948613
256	0.948193
257	0.947931
258	0.947826
259	0.947774
260	0.947616
261	0.947459
262	0.947406
263	0.947301
264	0.947196
265	0.946986
266	0.946881
267	0.946724
268	0.946566
269	0.946461
270	0.946198
271	0.945935
272	0.945935
273	0.94583
274	0.945778
275	0.945567
276	0.945462
277	0.94541
278	0.945199
279	0.945147
280	0.944989
281	0.944936
282	0.944831
283	0.94462
284	0.94462
285	0.944515

t	$S_{TX}(t)$
286	0.944357
287	0.944094
288	0.943936
289	0.943831
290	0.943673
291	0.943356
292	0.943198
293	0.942987
294	0.942882
295	0.942777
296	0.942777
297	0.942513
298	0.94246
299	0.942302
300	0.942196
301	0.941985
302	0.941985
303	0.941827
304	0.941774
305	0.94151
306	0.941405
307	0.941352
308	0.941193
309	0.940982
310	0.940876
311	0.940771
312	0.940559
313	0.9404
314	0.940295
315	0.940189
316	0.94003
317	0.939925
318	0.939766
319	0.939713
320	0.93966
321	0.939607
322	0.939501
323	0.939342
324	0.939342
325	0.939078
326	0.938972
327	0.938919

t	$S_{TX}(t)$
328	0.938707
329	0.938495
330	0.938389
331	0.938177
332	0.938124
333	0.937913
334	0.937701
335	0.937435
336	0.93717
337	0.936905
338	0.93664
339	0.936534
340	0.936428
341	0.936162
342	0.936056
343	0.936003
344	0.93595
345	0.935897
346	0.935737
347	0.935631
348	0.935578
349	0.935472
350	0.935259
351	0.935259
352	0.935047
353	0.934887
354	0.934728
355	0.934728
356	0.934675
357	0.934462
358	0.934196
359	0.934037
360	0.933877
361	0.933664
362	0.933664
363	0.933664
364	0.933664
365	0.933664
366	0.933505
367	0.933239
368	0.932866
369	0.932653

t	$S_{TX}(t)$
370	0.932546
371	0.93228
372	0.931854
373	0.931801
374	0.931747
375	0.931641
376	0.931481
377	0.931374
378	0.931267
379	0.930947
380	0.930947
381	0.930787
382	0.930627
383	0.930147
384	0.929987
385	0.929666
386	0.929506
387	0.929453
388	0.929292
389	0.929079
390	0.928865
391	0.928811
392	0.928704
393	0.928277
394	0.92817
395	0.927956
396	0.927849
397	0.927421
398	0.927368
399	0.927207
400	0.926993
401	0.926886
402	0.926725
403	0.926725
404	0.926618
405	0.926457
406	0.926189
407	0.926136
408	0.925975
409	0.925921
410	0.925868
411	0.925707

t	$S_{TX}(t)$
412	0.925439
413	0.925439
414	0.925332
415	0.925332
416	0.925117
417	0.925063
418	0.924956
419	0.924634
420	0.924634
421	0.924581
422	0.92442
423	0.924312
424	0.924205
425	0.923829
426	0.92356
427	0.923507
428	0.923292
429	0.923184
430	0.923184
431	0.92313
432	0.922969
433	0.922915
434	0.922646
435	0.922485
436	0.922377
437	0.922108
438	0.922001
439	0.921839
440	0.92157
441	0.921409
442	0.921355
443	0.921301
444	0.921247
445	0.921193
446	0.921139
447	0.920816
448	0.920708
449	0.920493
450	0.920277
451	0.920223
452	0.920062
453	0.9199

t	$S_{TX}(t)$
454	0.919846
455	0.919576
456	0.919361
457	0.919199
458	0.919091
459	0.918983
460	0.918821
461	0.918821
462	0.918659
463	0.918389
464	0.918173
465	0.918119
466	0.917795
467	0.917632
468	0.917416
469	0.917308
470	0.917254
471	0.917092
472	0.916875
473	0.916821
474	0.916659
475	0.916442
476	0.916442
477	0.916388
478	0.91628
479	0.916172
480	0.916117
481	0.916009
482	0.915955
483	0.915793
484	0.915522
485	0.915413
486	0.915413
487	0.915142
488	0.915088
489	0.91498
490	0.91498
491	0.91498
492	0.91498
493	0.914926
494	0.914709
495	0.914655

t	$S_{TX}(t)$
496	0.914492
497	0.914221
498	0.914112
499	0.914058
500	0.913949
501	0.913841
502	0.913732
503	0.913461
504	0.913352
505	0.913243
506	0.913026
507	0.912972
508	0.912809
509	0.912592
510	0.912429
511	0.912265
512	0.912157
513	0.911939
514	0.911776
515	0.911613
516	0.911232
517	0.911069
518	0.910797
519	0.910688
520	0.910525
521	0.910525
522	0.910471
523	0.910362
524	0.910253
525	0.910144
526	0.909926
527	0.909872
528	0.909817
529	0.909817
530	0.909599
531	0.90949
532	0.909436
533	0.909381
534	0.909381
535	0.909272
536	0.909163
537	0.908945

t	$S_{TX}(t)$
538	0.908836
539	0.908618
540	0.908618
541	0.908455
542	0.908291
543	0.908073
544	0.908018
545	0.9078
546	0.907745
547	0.907636
548	0.907527
549	0.907472
550	0.907254
551	0.907144
552	0.906926
553	0.906871
554	0.906817
555	0.906598
556	0.90627
557	0.906161
558	0.906161
559	0.906051
560	0.905723
561	0.905559
562	0.90534
563	0.905231
564	0.905121
565	0.905121
566	0.905121
567	0.904902
568	0.904738
569	0.904574
570	0.90441
571	0.904355
572	0.904245
573	0.904136
574	0.903971
575	0.903862
576	0.903643
577	0.903533
578	0.903259
579	0.903149

t	$S_{TX}(t)$
580	0.903094
581	0.902875
582	0.902875
583	0.902765
584	0.902655
585	0.90249
586	0.902269
587	0.902159
588	0.902104
589	0.902049
590	0.901938
591	0.901883
592	0.901773
593	0.901662
594	0.901607
595	0.901551
596	0.901496
597	0.901496
598	0.90133
599	0.90133
600	0.901274
601	0.901274
602	0.901051
603	0.900829
604	0.900773
605	0.900662
606	0.90055
607	0.900438
608	0.900326
609	0.90027
610	0.900103
611	0.900103
612	0.899934
613	0.89971
614	0.899654
615	0.899485
616	0.899317
617	0.899204
618	0.899148
619	0.899035
620	0.898979
621	0.898866

t	$S_{TX}(t)$
622	0.898866
623	0.89864
624	0.898527
625	0.898414
626	0.898414
627	0.898187
628	0.898017
629	0.897903
630	0.89779
631	0.897562
632	0.897505
633	0.897448
634	0.897277
635	0.897163
636	0.896992
637	0.896935
638	0.896878
639	0.89682
640	0.89682
641	0.896591
642	0.896534
643	0.896477
644	0.896247
645	0.896075
646	0.895845
647	0.895729
648	0.895556
649	0.895441
650	0.895268
651	0.89521
652	0.895152
653	0.895152
654	0.894978
655	0.894746
656	0.894688
657	0.894688
658	0.894572
659	0.894514
660	0.894455
661	0.894222
662	0.893988
663	0.893872

t	$S_{TX}(t)$
664	0.893638
665	0.893579
666	0.893404
667	0.893345
668	0.893287
669	0.893228
670	0.893052
671	0.892935
672	0.892641
673	0.892641
674	0.892523
675	0.892405
676	0.892346
677	0.89211
678	0.892051
679	0.891874
680	0.891756
681	0.891519
682	0.89146
683	0.89146
684	0.891341
685	0.891162
686	0.890805
687	0.890567
688	0.890507
689	0.890448
690	0.890448
691	0.890328
692	0.890268
693	0.890149
694	0.890089
695	0.890089
696	0.889669
697	0.889548
698	0.889368
699	0.889187
700	0.889067
701	0.888946
702	0.888946
703	0.888825
704	0.888705
705	0.888584

t	$S_{TX}(t)$
706	0.888341
707	0.88816
708	0.888038
709	0.887856
710	0.887735
711	0.887613
712	0.887309
713	0.887188
714	0.887188
715	0.887005
716	0.886883
717	0.886883
718	0.886883
719	0.886821
720	0.886821
721	0.886821
722	0.886637
723	0.886515
724	0.886453
725	0.886207
726	0.886146
727	0.886084
728	0.886084
729	0.886022
730	0.885961
731	0.885899
732	0.885775
733	0.885528
734	0.885528
735	0.885404
736	0.885404
737	0.885032
738	0.884845
739	0.884721
740	0.884597
741	0.884597
742	0.884285
743	0.884035
744	0.88366
745	0.883472
746	0.88316
747	0.883097

t	$S_{TX}(t)$
748	0.882721
749	0.882532
750	0.88247
751	0.882407
752	0.882344
753	0.882092
754	0.882029
755	0.881902
756	0.881839
757	0.881713
758	0.88165
759	0.881586
760	0.881333
761	0.881142
762	0.881015
763	0.880888
764	0.880825
765	0.880761
766	0.880634
767	0.880315
768	0.880187
769	0.880187
770	0.88006
771	0.879932
772	0.879676
773	0.87942
774	0.879356
775	0.879292
776	0.8791
777	0.878971
778	0.878779
779	0.878586
780	0.878457
781	0.878264
782	0.878199
783	0.878199
784	0.87807
785	0.87794
786	0.877811
787	0.877811
788	0.877681
789	0.877616

t	$S_{TX}(t)$
790	0.877551
791	0.877551
792	0.877291
793	0.877226
794	0.877161
795	0.877031
796	0.876835
797	0.876639
798	0.876443
799	0.876443
800	0.876312
801	0.876312
802	0.876246
803	0.876115
804	0.876049
805	0.875918
806	0.875786
807	0.875654
808	0.875522
809	0.87539
810	0.875192
811	0.874795
812	0.87453
813	0.874398
814	0.874332
815	0.874265
816	0.874265
817	0.874133
818	0.873933
819	0.873866
820	0.8736
821	0.8734
822	0.8734
823	0.873199
824	0.873066
825	0.872865
826	0.872664
827	0.872462
828	0.872395
829	0.872261
830	0.872193
831	0.872059

t	$S_{TX}(t)$
832	0.871856
833	0.871519
834	0.871384
835	0.871249
836	0.871046
837	0.870775
838	0.870707
839	0.870435
840	0.870367
841	0.870231
842	0.869755
843	0.869619
844	0.869482
845	0.869414
846	0.869209
847	0.869141
848	0.868936
849	0.868799
850	0.868593
851	0.868456
852	0.868319
853	0.86825
854	0.868112
855	0.868112
856	0.867768
857	0.867768
858	0.867768
859	0.867561
860	0.867422
861	0.867353
862	0.867215
863	0.867215
864	0.867215
865	0.867006
866	0.866937
867	0.866867
868	0.866797
869	0.866728
870	0.866588
871	0.866518
872	0.866518
873	0.866379

t	$S_{TX}(t)$
874	0.866169
875	0.865889
876	0.865748
877	0.865608
878	0.865467
879	0.865397
880	0.865397
881	0.865186
882	0.865044
883	0.865044
884	0.864974
885	0.864903
886	0.864832
887	0.86469
888	0.864619
889	0.864619
890	0.864477
891	0.864335
892	0.864335
893	0.864192
894	0.864121
895	0.864049
896	0.863978
897	0.863978
898	0.863978
899	0.863978
900	0.863691
901	0.863691
902	0.863691
903	0.863619
904	0.863474
905	0.863402
906	0.86333
907	0.863186
908	0.862896
909	0.862607
910	0.862317
911	0.8621
912	0.862027
913	0.862027
914	0.861881
915	0.861809

t	$S_{TX}(t)$
916	0.86159
917	0.861517
918	0.861444
919	0.861078
920	0.861078
921	0.860785
922	0.860712
923	0.860712
924	0.860492
925	0.860345
926	0.860197
927	0.860124
928	0.859976
929	0.859828
930	0.859828
931	0.85968
932	0.859606
933	0.859458
934	0.859384
935	0.859384
936	0.859235
937	0.859012
938	0.859012
939	0.858863
940	0.858863
941	0.858714
942	0.85849
943	0.85849
944	0.858266
945	0.858191
946	0.857966
947	0.857891
948	0.857665
949	0.85759
950	0.85759
951	0.85744
952	0.85744
953	0.857364
954	0.857063
955	0.856987
956	0.85676
957	0.856685
958	0.856305
959	0.856229
960	0.856229
961	0.856153
962	0.856077
963	0.855772
964	0.855619
965	0.855619
966	0.855543
967	0.855313
968	0.855313
969	0.85516
970	0.855083
971	0.85493
972	0.854699
973	0.854622
974	0.854622
975	0.854545
976	0.854468
977	0.854237
978	0.854159
979	0.854159
980	0.854082
981	0.854005
982	0.853927
983	0.853694
984	0.853616
985	0.853539
986	0.853539
987	0.853383
988	0.853305
989	0.853149
990	0.853071
991	0.852914
992	0.852836
993	0.852836
994	0.852758
995	0.852679
996	0.852601
997	0.852601
998	0.852286
999	0.852049
1000	0.852049
1001	0.852049
1002	0.851812
1003	0.851495
1004	0.851336
1005	0.851336
1006	0.851257
1007	0.851257
1008	0.851098
1009	0.851018
1010	0.851018
1011	0.851018
1012	0.850858
1013	0.850778
1014	0.850778
1015	0.850778
1016	0.850618
1017	0.850538
1018	0.850217
1019	0.849895
1020	0.849895
1021	0.849895
1022	0.849815
1023	0.849492
1024	0.849492
1025	0.849492
1026	0.849492
1027	0.84933
1028	0.84933
1029	0.84933
1030	0.849249
1031	0.849086
1032	0.848842
1033	0.848679
1034	0.848598
1035	0.848353
1036	0.848109
1037	0.848109
1038	0.847782
1039	0.847619
1040	0.847619
1041	0.847455
1042	0.847373
1043	0.84729
1044	0.847126
1045	0.846961
1046	0.846879
1047	0.846714
1048	0.846549
1049	0.846301
1050	0.84597
1051	0.845804
1052	0.845638
1053	0.845389
1054	0.845389
1055	0.845389
1056	0.845222
1057	0.845138
1058	0.845138
1059	0.845138
1060	0.844971
1061	0.844971
1062	0.844887
1063	0.844887
1064	0.844719
1065	0.844635
1066	0.844635
1067	0.84455
1068	0.844466
1069	0.844466
1070	0.844128
1071	0.844044
1072	0.844044
1073	0.843959
1074	0.843959
1075	0.843789
1076	0.84362
1077	0.84362
1078	0.843535
1079	0.843364
1080	0.843194
1081	0.843023
1082	0.843023
1083	0.843023

t	$S_{TX}(t)$
1084	0.842851
1085	0.842508
1086	0.842337
1087	0.842251
1088	0.841993
1089	0.841907
1090	0.841907
1091	0.841821
1092	0.841734
1093	0.841561
1094	0.841389
1095	0.841129
1096	0.841042
1097	0.840956
1098	0.840869
1099	0.840695
1100	0.840695
1101	0.840608
1102	0.840434
1103	0.840259
1104	0.839735
1105	0.839648
1106	0.839473
1107	0.839385
1108	0.839122
1109	0.839034
1110	0.838946
1111	0.838946
1112	0.838858
1113	0.838858
1114	0.838682
1115	0.838505
1116	0.838417
1117	0.838328
1118	0.838151
1119	0.838151
1120	0.837973
1121	0.837795
1122	0.837795
1123	0.837706
1124	0.837706
1125	0.837706

t	$S_{TX}(t)$
1126	0.837527
1127	0.837437
1128	0.837437
1129	0.837257
1130	0.836987
1131	0.836896
1132	0.836806
1133	0.836806
1134	0.836535
1135	0.836263
1136	0.835901
1137	0.835719
1138	0.835719
1139	0.835628
1140	0.835537
1141	0.835446
1142	0.835082
1143	0.835082
1144	0.834899
1145	0.834899
1146	0.834532
1147	0.834532
1148	0.834256
1149	0.834256
1150	0.834072
1151	0.834072
1152	0.834072
1153	0.833795
1154	0.83361
1155	0.833518
1156	0.833147
1157	0.833147
1158	0.833055
1159	0.832869
1160	0.832683
1161	0.832683
1162	0.83231
1163	0.832217
1164	0.832124
1165	0.832124
1166	0.831843
1167	0.831655

t	$S_{TX}(t)$
1168	0.831561
1169	0.831186
1170	0.831092
1171	0.830997
1172	0.830997
1173	0.830997
1174	0.830997
1175	0.830808
1176	0.830524
1177	0.830524
1178	0.830429
1179	0.830144
1180	0.830049
1181	0.830049
1182	0.829858
1183	0.829763
1184	0.829763
1185	0.829667
1186	0.829571
1187	0.829379
1188	0.829187
1189	0.82861
1190	0.82861
1191	0.828417
1192	0.828224
1193	0.827837
1194	0.827643
1195	0.827546
1196	0.827546
1197	0.827449
1198	0.827449
1199	0.827254
1200	0.827059
1201	0.826961
1202	0.826863
1203	0.826765
1204	0.826569
1205	0.826373
1206	0.826373
1207	0.826373
1208	0.826373
1209	0.826373

t	$S_{TX}(t)$
1210	0.826275
1211	0.826078
1212	0.825782
1213	0.825585
1214	0.825487
1215	0.825487
1216	0.825487
1217	0.825487
1218	0.825387
1219	0.825288
1220	0.824991
1221	0.824891
1222	0.824891
1223	0.824891
1224	0.824692
1225	0.824392
1226	0.824392
1227	0.824292
1228	0.823992
1229	0.823791
1230	0.823791
1231	0.823791
1232	0.823791
1233	0.82369
1234	0.823489
1235	0.823187
1236	0.822884
1237	0.822884
1238	0.822884
1239	0.822884
1240	0.822681
1241	0.822579
1242	0.822274
1243	0.822172
1244	0.82207
1245	0.82207
1246	0.821968
1247	0.821968
1248	0.821456
1249	0.821149
1250	0.821149
1251	0.821149

t	$S_{TX}(t)$
1252	0.821149
1253	0.82084
1254	0.820634
1255	0.82053
1256	0.82022
1257	0.82022
1258	0.82022
1259	0.820116
1260	0.819804
1261	0.819804
1262	0.8197
1263	0.819595
1264	0.819387
1265	0.819387
1266	0.819177
1267	0.818968
1268	0.818863
1269	0.818653
1270	0.818548
1271	0.818442
1272	0.818126
1273	0.818126
1274	0.818021
1275	0.817809
1276	0.817598
1277	0.817492
1278	0.817386
1279	0.817173
1280	0.817067
1281	0.817067
1282	0.817067
1283	0.817067
1284	0.816854
1285	0.81664
1286	0.81664
1287	0.81664
1288	0.816426
1289	0.816426
1290	0.816211
1291	0.816103
1292	0.816103
1293	0.815887

t	$S_{TX}(t)$
1294	0.81567
1295	0.815562
1296	0.815562
1297	0.815562
1298	0.815453
1299	0.815236
1300	0.815236
1301	0.815236
1302	0.815236
1303	0.815236
1304	0.815236
1305	0.814798
1306	0.814798
1307	0.814579
1308	0.814359
1309	0.814359
1310	0.814029
1311	0.814029
1312	0.813809
1313	0.813809
1314	0.813809
1315	0.813809
1316	0.813698
1317	0.813587
1318	0.813365
1319	0.813365
1320	0.813142
1321	0.813142
1322	0.813142
1323	0.813142
1324	0.812918
1325	0.812918
1326	0.812806
1327	0.812806
1328	0.812581
1329	0.812468
1330	0.812468
1331	0.812356
1332	0.812356
1333	0.812356
1334	0.812243
1335	0.812243

t	$S_{TX}(t)$
1336	0.81213
1337	0.811903
1338	0.811903
1339	0.811561
1340	0.811446
1341	0.811332
1342	0.811217
1343	0.810988
1344	0.810873
1345	0.810528
1346	0.810298
1347	0.810183
1348	0.810068
1349	0.809953
1350	0.809722
1351	0.809722
1352	0.809722
1353	0.809374
1354	0.809258
1355	0.809142
1356	0.809025
1357	0.808909
1358	0.808793
1359	0.808676
1360	0.808676
1361	0.808676
1362	0.808442
1363	0.80809
1364	0.80809
1365	0.807972
1366	0.807855
1367	0.807855
1368	0.807737
1369	0.807737
1370	0.807737
1371	0.807618
1372	0.807618
1373	0.807618
1374	0.8075
1375	0.807143
1376	0.807024
1377	0.806905

t	$S_{TX}(t)$
1378	0.806905
1379	0.806905
1380	0.806905
1381	0.806786
1382	0.806786
1383	0.806546
1384	0.806427
1385	0.806187
1386	0.806067
1387	0.805826
1388	0.805586
1389	0.805586
1390	0.805344
1391	0.805223
1392	0.805223
1393	0.805102
1394	0.805102
1395	0.805102
1396	0.804981
1397	0.804737
1398	0.804615
1399	0.804494
1400	0.804494
1401	0.804371
1402	0.804249
1403	0.804249
1404	0.804126
1405	0.803635
1406	0.803635
1407	0.803635
1408	0.803512
1409	0.803265
1410	0.803265
1411	0.803141
1412	0.803141
1413	0.803017
1414	0.802893
1415	0.802395
1416	0.802395
1417	0.802145
1418	0.801895
1419	0.801895

t	$S_{TX}(t)$
1420	0.801895
1421	0.801644
1422	0.801519
1423	0.801141
1424	0.801141
1425	0.801141
1426	0.801015
1427	0.800636
1428	0.800256
1429	0.800003
1430	0.800003
1431	0.800003
1432	0.800003
1433	0.800003
1434	0.799875
1435	0.79962
1436	0.799493
1437	0.799365
1438	0.799365
1439	0.799365
1440	0.799365
1441	0.799365
1442	0.799108
1443	0.799108
1444	0.799108
1445	0.798849
1446	0.79872
1447	0.79872
1448	0.798332
1449	0.798332
1450	0.798072
1451	0.797942
1452	0.797682
1453	0.797682
1454	0.79729
1455	0.79729
1456	0.796897
1457	0.796765
1458	0.796634
1459	0.796502
1460	0.796502
1461	0.796238

t	$S_{TX}(t)$
1462	0.796238
1463	0.796105
1464	0.795708
1465	0.795708
1466	0.795441
1467	0.795174
1468	0.795174
1469	0.795174
1470	0.79504
1471	0.794638
1472	0.794503
1473	0.794503
1474	0.794368
1475	0.794368
1476	0.794233
1477	0.793827
1478	0.793691
1479	0.793419
1480	0.793419
1481	0.793147
1482	0.79301
1483	0.792737
1484	0.792737
1485	0.792737
1486	0.792737
1487	0.792464
1488	0.792464
1489	0.792464
1490	0.792189
1491	0.792052
1492	0.791776
1493	0.791776
1494	0.791362
1495	0.791223
1496	0.791223
1497	0.791084
1498	0.791084
1499	0.791084
1500	0.791084
1501	0.790945
1502	0.790805
1503	0.790665

t	$S_{TX}(t)$
1504	0.790665
1505	0.790524
1506	0.790524
1507	0.790524
1508	0.790524
1509	0.790524
1510	0.790383
1511	0.790241
1512	0.790241
1513	0.790098
1514	0.790098
1515	0.790098
1516	0.789813
1517	0.789813
1518	0.789813
1519	0.789813
1520	0.789669
1521	0.789525
1522	0.789237
1523	0.789237
1524	0.789237
1525	0.789092
1526	0.788947
1527	0.788947
1528	0.788947
1529	0.788654
1530	0.788654
1531	0.788361
1532	0.788215
1533	0.787921
1534	0.787921
1535	0.787627
1536	0.787479
1537	0.787479
1538	0.787479
1539	0.787479
1540	0.787035
1541	0.787035
1542	0.787035
1543	0.787035
1544	0.787035
1545	0.786736

t	$S_{TX}(t)$
1546	0.786287
1547	0.786137
1548	0.786137
1549	0.785986
1550	0.785835
1551	0.785684
1552	0.785533
1553	0.785533
1554	0.785381
1555	0.785381
1556	0.785076
1557	0.785076
1558	0.784923
1559	0.784769
1560	0.784769
1561	0.784769
1562	0.784462
1563	0.784308
1564	0.784308
1565	0.784153
1566	0.784153
1567	0.784153
1568	0.784153
1569	0.784153
1570	0.784153
1571	0.784153
1572	0.783997
1573	0.783997
1574	0.783997
1575	0.783997
1576	0.783839
1577	0.783682
1578	0.783524
1579	0.783524
1580	0.783366
1581	0.783366
1582	0.783366
1583	0.783207
1584	0.783207
1585	0.783047
1586	0.783047
1587	0.783047

t	$S_{TX}(t)$
1588	0.783047
1589	0.782887
1590	0.782887
1591	0.782887
1592	0.782887
1593	0.782887
1594	0.782887
1595	0.782887
1596	0.782887
1597	0.782887
1598	0.782887
1599	0.782887
1600	0.782887
1601	0.782887
1602	0.782887
1603	0.782723
1604	0.782723
1605	0.782723
1606	0.782559
1607	0.782559
1608	0.782559
1609	0.782559
1610	0.782559
1611	0.782228
1612	0.782228
1613	0.782228
1614	0.782228
1615	0.781895
1616	0.781895
1617	0.781895
1618	0.781895
1619	0.781895
1620	0.781895
1621	0.781895
1622	0.781726
1623	0.781726
1624	0.781558
1625	0.781221
1626	0.781052
1627	0.781052
1628	0.780544
1629	0.780205

t	$S_{TX}(t)$
1630	0.780035
1631	0.780035
1632	0.780035
1633	0.780035
1634	0.780035
1635	0.780035
1636	0.780035
1637	0.779691
1638	0.779691
1639	0.779691
1640	0.779345
1641	0.779172
1642	0.778825
1643	0.778825
1644	0.778652
1645	0.778652
1646	0.778652
1647	0.778652
1648	0.778652
1649	0.778652
1650	0.778652
1651	0.778475
1652	0.778475
1653	0.778298
1654	0.777943
1655	0.777943
1656	0.777943
1657	0.777943
1658	0.777765
1659	0.777765
1660	0.777765
1661	0.777765
1662	0.777765
1663	0.777765
1664	0.777765
1665	0.777584
1666	0.777584
1667	0.777584
1668	0.777584
1669	0.777584
1670	0.777402
1671	0.777402

t	$S_{TX}(t)$
1672	0.777402
1673	0.777219
1674	0.777219
1675	0.776668
1676	0.776668
1677	0.776301
1678	0.776116
1679	0.776116
1680	0.775931
1681	0.775931
1682	0.77556
1683	0.77556
1684	0.77556
1685	0.775373
1686	0.774998
1687	0.774998
1688	0.774809
1689	0.774809
1690	0.77462
1691	0.77462
1692	0.77462
1693	0.77462
1694	0.77443
1695	0.774048
1696	0.774048
1697	0.773856
1698	0.773664
1699	0.773471
1700	0.773471
1701	0.773471
1702	0.773471
1703	0.773277
1704	0.773277
1705	0.773083
1706	0.773083
1707	0.772692
1708	0.772497
1709	0.772497
1710	0.772497
1711	0.772497
1712	0.772497
1713	0.772497

t	$S_{TX}(t)$
1714	0.7723
1715	0.7723
1716	0.7723
1717	0.772101
1718	0.771505
1719	0.771505
1720	0.770906
1721	0.770906
1722	0.770505
1723	0.770304
1724	0.770103
1725	0.769699
1726	0.769699
1727	0.769699
1728	0.769699
1729	0.769699
1730	0.769496
1731	0.769293
1732	0.769293
1733	0.769293
1734	0.769293
1735	0.769088
1736	0.768883
1737	0.768883
1738	0.768678
1739	0.768472
1740	0.768472
1741	0.768472
1742	0.768265
1743	0.768265
1744	0.76785
1745	0.76785
1746	0.767434
1747	0.766599
1748	0.766599
1749	0.766389
1750	0.765758
1751	0.765758
1752	0.765547
1753	0.765125
1754	0.764913
1755	0.764913

t	$S_{TX}(t)$
1756	0.764701
1757	0.764701
1758	0.764701
1759	0.764701
1760	0.764487
1761	0.764487
1762	0.764487
1763	0.764487
1764	0.764057
1765	0.763412
1766	0.763196
1767	0.763196
1768	0.763196
1769	0.763196
1770	0.763196
1771	0.763196
1772	0.76276
1773	0.762542

t	$S_{TX}(t)$
1774	0.762542
1775	0.762323
1776	0.761884
1777	0.761664
1778	0.761224
1779	0.761003
1780	0.760782
1781	0.760782
1782	0.760782
1783	0.760337
1784	0.760337
1785	0.760337
1786	0.760337
1787	0.760337
1788	0.759442
1789	0.759217
1790	0.759217
1791	0.759217

t	$S_{TX}(t)$
1792	0.759217
1793	0.759217
1794	0.759217
1795	0.758991
1796	0.758991
1797	0.758991
1798	0.758991
1799	0.758762
1800	0.758533
1801	0.758533
1802	0.758303
1803	0.758303
1804	0.758303
1805	0.758303
1806	0.758303
1807	0.758303
1808	0.75807
1809	0.757837

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t	$S_{TX}(t)$
1810	0.757837
1811	0.757837
1812	0.757602
1813	0.757602
1814	0.757602
1815	0.757602
1816	0.757602
1817	0.757602
1818	0.757365
1819	0.757365
1820	0.757365
1821	0.756888
1822	0.756888
1823	0.756888
1824	0.756409
1825	0.756169
1826	0.756168

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