DEC 15 1961

MASTER

GA-2563

GENERAL ATOMIC

DIVISION OF **GENERAL DYNAMICS**

DO NOT PHOTOSTAT

THE CONTRIBUTION OF THE INDIVIDUAL RESONANCES TO THE
RESONANCE INTEGRALS IN URANIUM AND THORIUM

by

L. W. Nordheim

U. S. Atomic Energy Commission
Contract AT(04-3)-167
Project Agreement No. 8

October 26, 1961

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency Thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

GENERAL ATOMIC
DIVISION OF
GENERAL DYNAMICS

JOHN JAY HOPKINS LABORATORY FOR PURE AND APPLIED SCIENCE

P.O. BOX 608, SAN DIEGO 12, CALIFORNIA

GA-2563

LEGAL NOTICE

This report was prepared as an account of Government sponsored work. Neither the United States, nor the Commission, nor any person acting on behalf of the Commission:

A. Makes any warranty or representation, expressed or implied, with respect to the accuracy, completeness, or usefulness of the information contained in this report, or that the use of any information, apparatus, method, or process disclosed in this report may not infringe privately owned rights; or

B. Assumes any liabilities with respect to the use of, or for damages resulting from the use of any information, apparatus, method, or process disclosed in this report.

As used in the above, "person acting on behalf of the Commission" includes any employee or contractor of the Commission, or employee of such contractor, to the extent that such employee or contractor of the Commission, or employee of such contractor prepares, disseminates, or provides access to, any information pursuant to his employment or contract with the Commission, or his employment with such contractor.

THE CONTRIBUTION OF THE INDIVIDUAL RESONANCES TO THE
RESONANCE INTEGRALS IN URANIUM AND THORIUM

Work done by:

L. W. Nordheim

G. F. Kuncir

Report written by:

L. W. Nordheim

U. S. Atomic Energy Commission
Contract AT(04-3)-167
Project Agreement No. 8

October 26, 1961

675 001

THE CONTRIBUTION OF THE INDIVIDUAL RESONANCES TO THE RESONANCE INTEGRALS IN URANIUM AND THORIUM

Calculations of resonance integrals were recently presented (Report GA-2527*) for U^{238} , Th^{232} , and their dioxides for a wide variety of temperatures and geometries. In order not to crowd that representation with too many details, only the sums of the resonance integrals over all the resolved resonances were given. However, reactor designers and experimenters in the field of resonance absorption may wish to have more detailed information as to the contributions of the individual resonances. We are presenting them, therefore, in this report. The resonance parameters used are listed in Tables 1 and 7 of GA-2527. The cases listed here are for isolated cylindrical rods (Tables 3, 4, 8, and 9 of GA-2527) and cover

U^{238} metal, density 18.7 g cm^{-3} , at 300° , 600° , and 900°K , for
rod radii of 0.1055, 0.211, 0.422, 0.845, and 1.69 cm;
 $U^{238}\text{O}_2$, density 10.2 g cm^{-3} , at 300° , 600° , 900° , 1200° , and 1500°K ,
for rod radii of 0.125, 0.25, 0.50, 1.0, and 2.0 cm;
 Th^{232} metal, density 11.7 g cm^{-3} , at 300° , 600° , and 900°K , for
rod radii of 0.138, 0.275, 0.55, 1.1, and 2.2 cm;
 $Th^{232}\text{O}_2$, density 7.1 g cm^{-3} , at 300° , 600° , and 900°K , for
rod radii of 0.25, 0.50, 1.0, and 2.0 cm.

The figures are given to a larger number of digits than is justified on the basis of knowledge of resonance parameters, in order to give enough accuracy for determination of their temperature dependence. The last entries in each column give the power of ten with which the preceding entry has to be multiplied, i. e., $1.0190 + 01$ means $1.0190 \times 10^1 = 10.190$.

*L. W. Nordheim and G. Kuncir, A Program of Research and Calculations of Resonance Absorption, Final Report (Contract AT(04-3)-167, Project Agreement, No. 8), August 28, 1961.

U^{238} METAL
(Rod Radius = 0.106 cm)

E_0	300°K	600°K	900°K	E_0	300°K	600°K	900°K
6.7	1.0190+01	1.0577+01	1.0967+01	557.0	1.2208-02	1.2329-02	1.2383-02
21.0	4.5867+00	4.8571+00	5.1177+00	581.0	8.6725-02	1.0047-01	1.0962-01
36.9	3.4444+00	3.5879+00	3.7344+00	596.0	7.8369-02	9.3549-02	1.0351-01
66.3	1.3107+00	1.4730+00	1.6168+00	605.0	6.4074-03	6.4427-03	6.4591-03
81.3	5.5570-01	6.4638-01	6.9480-01	621.0	8.0024-02	9.1915-02	9.9520-02
90.0	4.3226-02	4.3692-02	4.3937-02	629.0	5.4310-02	5.7589-02	5.9212-02
102.5	8.5691-01	9.2727-01	9.9510-01	662.0	5.9588-02	7.0376-02	7.8276-02
116.5	5.4990-01	7.1329-01	8.0642-01	680.0	1.0538-02	1.0638-02	1.0685-02
145.6	1.2479-01	1.3034-01	1.3322-01	695.0	6.7202-02	7.7520-02	8.4362-02
165.2	2.7163-01	3.0387-01	3.2286-01	710.0	5.8612-02	6.3677-02	6.6289-02
189.6	3.6458-01	3.9008-01	4.1476-01	723.0	5.4054-02	5.8135-02	6.0214-02
208.5	2.9540-01	3.4779-01	3.8984-01	732.0	2.5149-02	2.5800-02	2.6107-02
237.5	2.5926-01	3.1595-01	3.5647-01	766.0	3.8551-02	4.0372-02	4.1258-02
264.5	1.2971-02	1.3058-02	1.3098-02	782.0	1.6787-02	1.7073-02	1.7209-02
274.0	2.2177-01	2.7001-01	2.9531-01	792.0	4.0589-02	4.2770-02	4.3842-02
291.0	2.0738-01	2.4411-01	2.6955-01	825.0	5.2860-02	6.0468-02	6.5404-02
311.5	3.7352-02	3.8156-02	3.8528-02	855.0	4.2731-02	5.0398-02	5.5618-02
348.0	1.5934-01	1.9365-01	2.1738-01	859.0	5.0103-02	5.7117-02	6.1619-02
377.0	3.7155-02	3.8053-02	3.8479-02	867.0	1.0540-02	1.0659-02	1.0714-02
398.5	1.1867-01	1.3167-01	1.3866-01	896.0	6.1358-03	6.1768-03	6.1952-03
411.0	1.3101-01	1.5048-01	1.6162-01	909.0	4.3309-02	5.0660-02	5.5237-02
435.0	1.1624-01	1.3087-01	1.3890-01	928.0	4.5207-02	5.0215-02	5.2925-02
455.0	1.2981-02	1.3102-02	1.3159-02	940.0	3.4246-02	3.9760-02	4.3845-02
464.0	7.9048-02	8.4648-02	8.7470-02	960.0	3.3519-02	3.8996-02	4.2975-02
479.0	5.6812-02	5.9491-02	6.0803-02	983.0	3.9966-03	4.0151-03	4.0233-03
490.0	1.5664-02	1.5847-02	1.5933-02	995.0	2.8329-02	3.1189-02	3.3547-02
519.0	1.0107-01	1.1746-01	1.2845-01	Total Unresolved	2.5294+01	2.7093+01	2.8582+01
536.0	9.2589-02	1.1067-01	1.2002-01		1.9565+00	2.0993+00	2.1830+00

U^{238} METAL
(Rod Radius = 0.211 cm)

E_0	300°K	600°K	900°K	E_0	300°K	600°K	900°K
6.7	7.0837+00	7.2201+00	7.3663+00	557.0	1.1857-02	1.2069-02	1.2166-02
21.0	3.2207+00	3.3210+00	3.4252+00	581.0	6.0254-02	7.1424-02	8.0014-02
36.9	2.5276+00	2.5832+00	2.6420+00	596.0	5.3530-02	6.5015-02	7.3274-02
66.3	9.4740-01	1.0241+00	1.0964+00	605.0	6.3064-03	6.3688-03	6.3980-03
81.3	3.8238-01	4.5869-01	5.0143-01	621.0	5.6449-02	6.6804-02	7.4397-02
90.0	4.1620-02	4.2459-02	4.2893-02	629.0	4.6044-02	5.0676-02	5.3108-02
102.5	6.5385-01	6.8639-01	7.1986-01	662.0	4.1389-02	4.8535-02	5.4289-02
116.5	3.9256-01	4.6846-01	5.2813-01	680.0	1.0244-02	1.0421-02	1.0505-02
145.6	1.0889-01	1.1709-01	1.2153-01	695.0	4.6979-02	5.5472-02	6.1990-02
165.2	1.9974-01	2.3254-01	2.5411-01	710.0	4.6869-02	5.3276-02	5.6826-02
189.6	2.8526-01	2.9736-01	3.0995-01	723.0	4.4245-02	4.9650-02	5.2596-02
208.5	2.0974-01	2.3964-01	2.6519-01	732.0	2.3324-02	2.4396-02	2.4914-02
237.5	1.7442-01	2.1129-01	2.3921-01	766.0	3.3780-02	3.6509-02	3.7897-02
264.5	1.2706-02	1.2863-02	1.2934-02	782.0	1.5958-02	1.6451-02	1.6686-02
274.0	1.4825-01	1.8227-01	1.9827-01	792.0	3.5002-02	3.8178-02	3.9819-02
291.0	1.4036-01	1.6752-01	1.8924-01	825.0	3.7471-02	4.4074-02	4.9006-02
311.5	3.5009-02	3.6358-02	3.7003-01	855.0	2.9594-02	3.5167-02	3.9328-02
348.0	1.0740-01	1.3094-01	1.4833-01	859.0	3.5740-02	4.1973-02	4.6568-02
377.0	3.4570-02	3.6060-02	3.6783-02	867.0	1.0199-02	1.0407-02	1.0503-02
398.5	9.0286-02	1.0513-01	1.1381-01	896.0	6.0196-03	6.0921-03	6.1250-03
411.0	9.3283-02	1.1212-01	1.2401-01	909.0	3.0258-02	3.6397-02	4.0617-02
435.0	8.5917-02	1.0154-01	1.1093-01	928.0	3.4369-02	4.0049-02	4.3400-02
455.0	1.2626-02	1.2839-02	1.2940-02	940.0	2.4118-02	2.7784-02	3.0818-02
464.0	6.5312-02	7.2849-02	7.6903-02	960.0	2.3552-02	2.7266-02	3.0258-02
479.0	4.9720-02	5.3723-02	5.5766-02	983.0	3.9451-03	3.9780-03	3.9925-03
490.0	1.5127-02	1.5446-02	1.5598-02	995.0	2.1230-02	2.2832-02	2.4277-02
519.0	6.9869-02	8.2974-02	9.3120-02	Total Unresolved	1.8040+01	1.9003+01	1.9801+01
536.0	6.3089-02	7.6929-02	8.3779-02		1.6649+00	1.8190+00	1.9120+00

U^{238} METAL
(Rod Radius = 0.422 cm)

E_0	300°K	600°K	900°K	E_0	300°K	600°K	900°K
6.7	4.9364+00	4.9820+00	5.0316+00	557.0	1.1285-02	1.1635-02	1.1800-02
21.0	2.2721+00	2.3060+00	2.3428+00	581.0	4.1506-02	4.8864-02	5.5429-02
36.9	1.8502+00	1.8702+00	1.8916+00	596.0	3.2281-02	4.4935-02	5.0838-02
66.3	7.0243-01	7.3433-01	7.6667-01	605.0	6.1358-03	6.2425-03	6.2922-03
81.3	2.5753-01	3.0993-01	3.3816-01	621.0	3.9016-02	4.6245-02	5.2332-02
90.0	3.9040-02	4.0406-02	4.1117-02	629.0	3.6347-02	4.1790-02	4.4869-02
102.5	5.1057-01	5.2385-01	5.3847-01	662.0	2.9960-02	3.4281-02	3.8098-02
116.5	2.7339-01	3.1627-01	3.5140-01	680.0	9.7655-03	1.0059-02	1.0200-02
145.6	8.8835-02	9.8980-02	1.0488-01	695.0	3.2511-02	3.8144-02	4.3183-02
165.2	1.3938-01	1.6532-01	1.8450-01	710.0	3.4862-02	4.1403-02	4.5361-02
189.6	2.3079-01	2.3584-01	2.4151-01	723.0	3.3652-02	3.9488-02	4.2948-02
208.5	1.5692-01	1.7272-01	1.8721-01	732.0	2.0678-02	2.2255-02	2.3050-02
237.5	1.2193-01	1.4455-01	1.6238-01	766.0	2.7738-02	3.1216-02	3.3105-02
264.5	1.2264-02	1.2529-02	1.2653-02	782.0	1.4682-02	1.5455-02	1.5834-02
274.0	1.0163-01	1.2372-01	1.3122-01	792.0	2.8186-02	3.2079-02	3.4236-02
291.0	9.5310-02	1.1202-01	1.2748-01	825.0	2.6080-02	3.0640-02	3.4602-02
311.5	3.1519-02	3.3549-02	3.4563-02	855.0	2.1064-02	2.4691-02	2.7587-02
348.0	7.4836-02	8.9917-02	1.0151-01	859.0	2.4933-02	2.9319-02	3.3079-02
377.0	3.0787-02	3.2992-02	3.4106-02	867.0	9.6482-03	9.9888-03	1.0150-02
398.5	6.4368-02	7.7818-02	8.6436-02	896.0	5.8261-03	5.9484-03	6.0048-03
411.0	6.3843-02	7.8561-02	8.8636-02	909.0	2.1146-02	2.5512-02	2.8725-02
435.0	6.0072-02	7.3343-02	8.2061-02	928.0	2.4573-02	2.9710-02	3.3029-02
455.0	1.2046-02	1.2400-02	1.2568-02	940.0	1.7682-02	1.9855-02	2.1879-02
464.0	5.0108-02	5.8417-02	6.3263-02	960.0	1.7190-02	1.9439-02	2.1445-02
479.0	4.0740-02	4.5820-02	4.8589-02	983.0	3.8579-03	3.9138-03	3.9391-03
490.0	1.4263-02	1.4786-02	1.5037-02	995.0	1.6774-02	1.7539-02	1.8315-02
519.0	4.7996-02	5.6531-02	6.4194-02	Total Unresolved	1.2910+01	1.3454+01	1.3888+01
536.0	4.3605-02	5.0871-02	5.6770-02		1.3974+00	1.5520+00	1.6477+00

U^{238} METAL
(Rod Radius = 0.845 cm)

E_0	300°K	600°K	900°K	E_0	300°K	600°K	900°K
6.7	3.4316+00	3.4472+00	3.4638+00	557.0	1.0486-02	1.1006-02	1.1259-02
21.0	1.6029+00	1.6142+00	1.6263+00	581.0	2.9984-02	3.4443-02	3.9085-02
36.9	1.3462+00	1.3532+00	1.3606+00	596.0	2.7445-02	3.2518-02	3.6575-02
66.3	5.2845-01	5.3992-01	5.5262-01	605.0	5.8847-03	6.0518-03	6.1306-03
81.3	1.7910-01	2.1210-01	2.2729-01	621.0	2.8107-02	3.2770-02	3.7134-02
90.0	3.5485-02	3.7436-02	3.8471-02	629.0	2.7684-02	3.2913-02	3.6109-02
102.5	4.0466-01	4.0910-01	4.1445-01	662.0	2.3221-02	2.5686-02	2.8150-02
116.5	2.0005-01	2.2345-01	2.4357-01	680.0	9.0946-03	9.5341-03	9.7484-03
145.6	6.9222-02	7.9357-02	8.5735-02	695.0	2.3595-02	2.7000-02	3.0592-02
165.2	9.8730-02	1.1645-01	1.3069-01	710.0	2.5565-02	3.1118-02	3.4727-02
189.6	1.9205-01	1.9360-01	1.9557-01	723.0	2.5004-02	3.0190-02	3.3506-02
208.5	1.2379-01	1.3124-01	1.3888-01	732.0	1.7564-02	1.9540-02	2.0593-02
237.5	9.0415-02	1.0408-01	1.1535-01	766.0	2.1817-02	2.5468-02	2.7604-02
264.5	1.1621-02	1.2029-02	1.2223-02	782.0	1.3041-02	1.4101-02	1.4642-02
274.0	7.3810-02	8.7999-02	9.0310-02	792.0	2.1813-02	2.5726-02	2.8068-02
291.0	6.8039-02	7.7634-02	8.8022-02	825.0	1.8959-02	2.1799-02	2.4685-02
311.5	2.7231-02	2.9858-02	3.1236-02	855.0	1.6019-02	1.8288-02	2.0227-02
348.0	5.5472-02	6.5007-02	7.2627-02	859.0	1.8126-02	2.0898-02	2.3664-02
377.0	2.6265-02	2.9050-02	3.0532-02	867.0	8.8919-03	9.3913-03	9.6352-03
398.5	4.6073-02	5.6504-02	6.3584-02	896.0	5.5448-03	5.7342-03	5.8233-03
411.0	4.5032-02	5.5530-02	6.3006-02	909.0	1.5599-02	1.8561-02	2.0837-02
435.0	4.2682-02	5.2595-02	5.9439-02	928.0	1.7721-02	2.1733-02	2.4488-02
455.0	1.1230-02	1.1759-02	1.2015-02	940.0	1.3915-02	1.5081-02	1.6378-02
464.0	3.7376-02	4.4866-02	4.9577-02	960.0	1.3462-02	1.4716-02	1.6007-02
479.0	3.1954-02	3.7243-02	4.0346-02	983.0	3.7278-03	3.8166-03	3.8574-03
490.0	1.3083-02	1.3842-02	1.4218-02	995.0	1.4129-02	1.4371-02	1.4701-02
519.0	3.0947-02	3.9737-02	4.5113-02	Total Unresolved	9.3119+00	9.6356+00	9.8795+00
536.0	3.1930-02	3.8143-02	3.9793-02		1.1837+00	1.3321+00	1.4258+00

U²³⁸ METAL
(Rod Radius = 1.69 cm)

E ₀	300°K	600°K	900°K	E ₀	300°K	600°K	900°K
6.7	2.3675+00	2.3731+00	2.3789+00	557.0	9.5967-03	1.0268-02	1.0604-02
21.0	1.0941+00	1.1319+00	1.1360+00	581.0	2.3384-02	2.6143-02	2.9520-02
36.9	9.7213-01	9.7461-01	9.7711-01	596.0	2.1931-02	2.5273-02	2.8092-02
66.3	3.9882-01	4.0221-01	4.0642-01	605.0	5.5827-03	5.8140-03	5.9254-03
81.3	1.3224-01	1.5298-01	1.6049-01	621.0	2.1827-02	2.4864-02	2.8124-02
90.0	3.1615-02	3.3968-02	3.5251-02	629.0	2.1779-02	2.6270-02	2.9144-02
102.5	3.2261-01	3.2347-01	3.2477-01	662.0	1.9510-02	2.0743-02	2.2278-02
116.5	1.5305-01	1.6556-01	1.7710-01	680.0	8.3457-03	8.9160-03	9.2028-03
145.6	5.4679-02	6.3377-02	6.9115-02	695.0	1.8501-02	2.0576-02	2.3208-02
165.2	7.4412-02	8.6595-02	9.6721-02	710.0	1.9783-02	2.4248-02	2.7246-02
189.6	1.6303-01	1.6294-01	1.6310-01	723.0	1.9458-02	2.3728-02	2.6563-02
208.5	1.0187-01	1.0447-01	1.0797-01	732.0	1.4801-02	1.6899-02	1.8081-02
237.5	7.1443-02	7.9595-02	8.6806-02	766.0	1.7469-02	2.0802-02	2.2859-02
264.5	1.0864-02	1.1411-02	1.1679-02	782.0	1.1415-02	1.2654-02	1.3317-02
274.0	5.7548-02	6.6768-02	6.6823-02	792.0	1.7316-02	2.0783-02	2.2967-02
291.0	5.2224-02	5.7953-02	6.5141-02	825.0	1.4883-02	1.6666-02	1.8811-02
311.5	2.3222-02	2.6088-02	2.7671-02	855.0	1.3259-02	1.4615-02	1.5901-02
348.0	4.4257-02	5.0204-02	5.5292-02	859.0	1.4222-02	1.5988-02	1.8057-02
377.0	2.2177-02	2.5142-02	2.6806-02	867.0	8.0704-03	8.7041-03	9.0248-03
398.5	3.5173-02	4.3117-02	4.8619-02	896.0	5.2138-03	5.4722-03	5.5966-03
411.0	3.4246-02	4.1917-02	4.4174-02	909.0	1.2478-02	1.4501-02	1.6127-02
435.0	3.2528-02	3.9957-02	4.2014-02	928.0	1.3662-02	1.6771-02	1.8959-02
455.0	1.0313-02	1.0998-02	1.1342-02	940.0	1.1920-02	1.2403-02	1.3186-02
464.0	2.9067-02	3.5241-02	3.9271-02	960.0	1.1485-02	1.2058-02	1.2850-02
479.0	2.5502-02	3.0277-02	3.3228-02	983.0	3.5688-03	3.6943-03	3.7530-03
490.0	1.1810-02	1.2760-02	1.3248-02	995.0	1.2734-02	1.2630-02	1.2648-02
519.0	2.6918-02	3.0088-02	3.3972-02	Total Unresolved	6.7508+00	6.9877+00	7.1311+00
536.0	2.5297-02	2.9451-02	3.0025-02		1.0345+00	1.1750+00	1.2651+00

UO_2
(Rod Radius = 0.125 cm)

E_0	300°K	600°K	900°K	1200°K	1500°K
6.7	1.4101+01	1.4987+01	1.5815+01	1.6582+01	1.7293+01
21.0	6.3431+00	6.9288+00	7.4521+00	7.9217+00	8.3485+00
36.9	4.6017+00	4.9209+00	5.2273+00	5.5161+00	5.7878+00
66.3	1.8140+00	2.1054+00	2.3494+00	2.5602+00	2.7466+00
81.3	7.2248-01	8.0785-01	8.5095-01	8.8327-01	9.0702-01
90.0	4.4056-02	4.4319-02	4.4464-02	4.4543-02	4.4607-02
102.5	1.1339+00	1.2657+00	1.3848+00	1.4934+00	1.5931+00
116.5	8.4781-01	1.0262+00	1.1502+00	1.2225+00	1.3012+00
145.6	1.3424-01	1.3784-01	1.3965-01	1.4081-01	1.4160-01
165.2	3.2990-01	3.5616-01	3.7057-01	3.7997-01	3.8684-01
189.6	4.7345-01	5.2007-01	5.6224-01	6.0080-01	6.3645-01
208.5	4.1553-01	4.9537-01	5.5548-01	6.0437-01	6.4604-01
237.5	3.6940-01	4.4292-01	4.9147-01	5.1851-01	5.4753-01
264.5	1.3106-02	1.3157-02	1.3180-02	1.3195-02	1.3207-02
274.0	3.1039-01	3.6647-01	3.9547-01	4.2030-01	4.3948-01
291.0	2.7910-01	3.1752-01	3.4134-01	3.5780-01	3.7011-01
311.5	3.8608-02	3.9094-02	3.9320-02	3.9458-02	3.9558-02
348.0	2.2394-01	2.6549-01	2.9185-01	3.0607-01	3.2110-01
377.0	3.8557-02	3.9105-02	3.9363-02	3.9519-02	3.9635-02
398.5	1.4003-01	1.4987-01	1.5490-01	1.5807-01	1.6037-01
411.0	1.6400-01	1.8050-01	1.8929-01	1.9511-01	1.9932-01
435.0	1.4049-01	1.5209-01	1.5806-01	1.6194-01	1.6470-01
455.0	1.3163-02	1.3235-02	1.3269-02	1.3288-02	1.3303-02
464.0	8.7992-02	9.1830-02	9.3689-02	9.4864-02	9.5682-02
479.0	6.1037-02	6.2765-02	6.3588-02	6.4104-02	6.4458-02
490.0	1.5944-02	1.6052-02	1.6104-02	1.6135-02	1.6157-02
519.0	1.3239-01	1.4836-01	1.5801-01	1.6456-01	1.6943-01
536.0	1.2524-01	1.4426-01	1.5376-01	1.6158-01	1.6751-01

UO₂--continued

E _c	300°K	600°K	900°K	1200°K	1500°K
557.0	1.2389-02	1.2461-02	1.2493-02	1.2514-02	1.2528-02
581.0	1.1292-01	1.2613-01	1.3406-01	1.3942-01	1.4343-01
596.0	1.0615-01	1.2230-01	1.3196-01	1.3710-01	1.4222-01
605.0	6.4587-03	6.4799-03	6.4898-03	6.4962-03	6.4998-03
621.0	1.0207-01	1.1288-01	1.1918-01	1.2340-01	1.2651-01
629.0	5.9474-02	6.1656-02	6.2704-02	6.3371-02	6.3820-02
662.0	8.2197-02	9.5528-02	1.0439-02	1.1097-01	1.1611-01
680.0	1.0689-02	1.0748-02	1.0777-02	1.0793-02	1.0805-02
695.0	8.6957-02	9.6741-02	1.0262-01	1.0658-01	1.0953-01
710.0	6.6715-02	7.0313-02	7.2085-02	7.3216-02	7.4007-02
723.0	6.0544-02	6.3362-02	6.4759-02	6.5619-02	6.6234-02
732.0	2.6148-02	2.6546-02	2.6731-02	2.6847-02	2.6927-02
766.0	4.1389-02	4.2562-02	4.3117-02	4.3464-02	4.3702-02
782.0	1.7225-02	1.7398-02	1.7479-02	1.7528-02	1.7562-02
792.0	4.3997-02	4.5424-02	4.6108-02	4.6526-02	4.6824-02
825.0	6.7232-02	7.4158-02	7.8242-02	8.0973-02	8.2983-02
855.0	5.7802-02	6.6294-02	7.1558-02	7.5331-02	7.8224-02
859.0	6.3260-02	6.9518-02	7.3197-02	7.5639-02	7.7422-02
867.0	1.0718-02	1.0789-02	1.0821-02	1.0841-02	1.0855-02
896.0	6.1950-03	6.2197-03	6.2306-03	6.2376-03	6.2422-03
909.0	5.6511-02	6.3570-02	6.7605-02	6.9738-02	7.1777-02
928.0	5.3457-02	5.7262-02	5.9214-02	6.0467-02	6.1367-02
940.0	4.6480-02	5.3143-02	5.7597-02	6.0883-02	6.3479-02
960.0	4.5420-02	5.1912-02	5.6181-02	5.9312-02	6.1774-02
983.0	4.0227-03	4.0339-03	4.0388-03	4.0418-03	4.0439-03
995.0	3.7530-02	4.1668-02	4.4799-02	4.7329-02	4.9458-02
Total	3.4398+01	3.7447+01	3.9999+01	4.2209+01	4.4229+01
Unresolved	2.2067+00	2.3307+00	2.4013+00	2.4505+00	2.4884+00

UO_2
(Rod Radius = 0.25 cm)

E_0	300°K	600°K	900°K	1200°K	1500°K
6.7	9.8385+00	1.0203+01	1.0569+01	1.0926+01	1.1269+01
21.0	4.4471+00	4.7024+00	4.9480+00	5.1794+00	5.3968+00
36.9	3.3844+00	3.5252+00	3.6674+00	3.8069+00	3.9424+00
66.3	1.2879+00	1.4445+00	1.5829+00	1.7064+00	1.8181+00
81.3	5.3523-01	6.2483-01	6.7324-01	7.1228-01	7.4206-01
90.0	4.3099-02	4.3596-02	4.3857-02	4.4008-02	4.4120-02
102.5	8.4939-01	9.1854-01	9.8505-01	1.0480+00	1.1072+00
116.5	5.6863-01	6.8931-01	7.7958-01	8.2546-01	8.8819-01
145.6	1.2326-01	1.2912-01	1.3217-01	1.3410-01	1.3547-01
165.2	2.6370-01	2.9634-01	3.1582-01	3.2904-01	3.3890-01
189.6	3.6165-01	3.8662-01	4.1083-01	4.3393-01	4.5597-01
208.5	2.8934-01	3.3988-01	3.8056-01	4.1518-01	4.4585-01
237.5	2.5150-01	3.0601-01	3.4522-01	3.6459-01	3.9055-01
264.5	1.2951-02	1.3044-02	1.3086-02	1.3112-02	1.3133-02
274.0	2.1444-01	2.6112-01	2.8541-01	3.0953-01	3.2909-01
291.0	2.0022-01	2.3598-01	2.6118-01	2.7970-01	2.9420-01
311.5	3.7150-02	3.8005-02	3.8406-02	3.8655-02	3.8830-02
348.0	1.5441-01	1.8757-01	2.1065-01	2.2197-01	2.3659-01
377.0	3.6930-02	3.7885-02	3.8340-02	3.8620-02	3.8820-02
398.5	1.1571-01	1.2903-01	1.3627-01	1.4101-01	1.4450-01
411.0	1.2697-01	1.4653-01	1.5785-01	1.6567-01	1.7153-01
435.0	1.1303-01	1.2792-01	1.3617-01	1.4172-01	1.4581-01
455.0	1.2954-02	1.3082-02	1.3142-02	1.3178-02	1.3203-02
464.0	7.7703-02	8.3546-02	8.6511-02	8.8412-02	8.9771-02
479.0	5.6153-02	5.8980-02	6.0363-02	6.1239-02	6.1855-02
490.0	1.5622-02	1.5817-02	1.5908-02	1.5963-02	1.6003-02
519.0	9.7786-02	1.1390-01	1.2488-01	1.3278-01	1.3888-01
536.0	8.9564-02	1.0724-01	1.1637-01	1.2487-01	1.3164-01

010 010

UO₂--continued

E ₀	300°K	600°K	900°K	1200°K	1500°K
557.0	1.2181-02	1.2309-02	1.2367-02	1.2404-02	1.2430-02
581.0	8.3941-02	9.7482-02	1.0665-01	1.1320-01	1.1827-01
596.0	7.5844-02	9.0663-02	1.0050-01	1.0550-01	1.1126-01
605.0	6.3999-03	6.4374-03	6.4546-03	6.4655-03	6.4722-03
621.0	7.7541-02	8.9344-02	9.7022-02	1.0243-01	1.0657-01
629.0	5.3524-02	5.6955-02	5.8669-02	5.9765-02	6.0533-02
662.0	5.7881-02	6.8287-02	7.5980-02	8.2084-02	8.7063-02
680.0	1.0515-02	1.0621-02	1.0672-02	1.0702-02	1.0723-02
695.0	6.5087-02	7.5264-02	8.2136-02	8.7039-02	9.0827-02
710.0	5.7453-02	6.2699-02	6.5419-02	6.7196-02	6.8466-02
723.0	5.3097-02	5.7340-02	5.9530-02	6.0920-02	6.1925-02
732.0	2.4990-02	2.5683-02	2.6009-02	2.6212-02	2.6354-02
766.0	3.8110-02	4.0031-02	4.0967-02	4.1557-02	4.1972-02
782.0	1.6719-02	1.7025-02	1.7169-02	1.7257-02	1.7317-02
792.0	4.0069-02	4.2359-02	4.3492-02	4.4201-02	4.4707-02
825.0	5.1249-02	5.8806-02	6.3786-02	6.7294-02	6.9964-02
855.0	4.1414-02	4.8869-02	5.4000-02	5.7926-02	6.1081-02
859.0	4.8604-02	5.5586-02	6.0141-02	6.3326-02	6.5740-02
867.0	1.0514-02	1.0640-02	1.0698-02	1.0733-02	1.0758-02
896.0	6.1270-03	6.1708-03	6.1902-03	6.2023-03	6.2150-03
909.0	4.1954-02	4.9215-02	5.3789-02	5.6159-02	5.8701-02
928.0	4.4108-02	4.9236-02	5.2034-02	5.3893-02	5.5265-02
940.0	3.3265-02	3.8584-02	4.2566-02	4.5705-02	4.8304-02
960.0	3.2546-02	3.7839-02	4.1726-02	4.4773-02	4.7286-02
983.0	3.9930-03	4.0124-03	4.0210-03	4.0263-03	4.0300-03
995.0	2.7706-02	3.0437-02	3.2700-02	3.4647-02	3.6362-02
Total	2.4620+01	2.6321+01	2.7753+01	2.8993+01	3.0167+01
Unresolved	1.9384+00	2.0823+00	2.1667+00	2.2265+00	2.2729+00

675
011

UO_2
(Rod Radius = 0.50 cm)

E_0	300°K	600°K	900°K	1200°K	1500°K
6.7	7.0444+00	7.1931+00	7.3480+00	7.5050+00	7.6613+00
21.0	3.2079+00	3.3155+00	3.4247+00	3.5324+00	3.6372+00
36.9	2.5379+00	2.5994+00	2.6631+00	2.7274+00	2.7915+00
66.3	9.5582-01	1.0354+00	1.1095+00	1.1778+00	1.2135+00
81.3	3.7765-01	4.5192-01	4.9354-01	5.3075-01	5.6038-01
90.0	4.1511-02	4.2374-02	4.2819-02	4.3087-02	4.3281-02
102.5	6.6286-01	6.9767-01	7.3293-01	7.6748-01	8.0082-01
116.5	3.9481-01	4.7052-01	5.2971-01	5.4997-01	5.9306-01
145.6	1.0783-01	1.1617-01	1.2072-01	1.2367-01	1.2580-01
165.2	1.9700-01	2.2919-01	2.5057-01	2.6585-01	2.7766-01
189.6	2.8929-01	3.0220-01	3.1544-01	3.2860-01	3.4152-01
208.5	2.1219-01	2.4255-01	2.6839-01	2.9105-01	3.1171-01
237.5	1.7552-01	1.6996-01	2.3977-01	2.4919-01	2.6852-01
264.5	1.2689-02	1.2850-02	1.2924-02	1.2970-02	1.3004-02
274.0	1.4856-01	1.8208-01	1.9763-01	2.1662-01	2.3264-01
291.0	1.3983-01	1.6627-01	1.8756-01	2.0411-01	2.1764-01
311.5	3.4853-02	3.6236-02	3.6902-02	3.7318-02	3.7614-02
348.0	1.0789-01	1.3121-01	1.4835-01	1.5450-01	1.6606-01
377.0	3.4397-02	3.5927-02	3.6672-02	3.7135-02	3.7466-02
398.5	8.9115-02	1.0383-01	1.1251-01	1.1849-01	1.2304-01
411.0	9.2291-02	1.1079-01	1.2253-01	1.3111-01	1.3781-01
435.0	8.4864-02	1.0028-01	1.0962-01	1.1624-01	1.2131-01
455.0	1.2604-02	1.2823-02	1.2925-02	1.2987-02	1.3031-02
464.0	6.4553-02	7.2152-02	7.6260-02	7.8980-02	8.0974-02
479.0	4.9276-02	5.3352-02	5.5442-02	5.6791-02	5.7753-02
490.0	1.5091-02	1.5421-02	1.5577-02	1.5673-02	1.5740-02
519.0	6.9517-02	8.2288-02	9.2246-02	9.9838-02	1.0598-01
536.0	6.3028-02	7.6642-02	8.3271-02	9.0655-02	9.6791-02

UO₂--continued

E ₀	300°K	600°K	900°K	1200°K	1500°K
557.0	1.1834-02	1.2052-02	1.2153-02	1.2216-02	1.2259-02
581.0	5.9928-02	7.0816-02	7.9248-02	8.5651-02	9.0825-02
596.0	5.3509-02	6.4811-02	7.2931-02	7.6412-02	8.1573-02
605.0	6.2999-03	6.3643-03	6.3941-03	6.4127-03	6.4246-03
621.0	5.6035-02	6.6144-02	7.3617-02	7.9211-02	8.3666-02
629.0	4.5572-02	5.0259-02	5.2730-02	5.4351-02	5.5517-02
662.0	4.1576-02	4.8399-02	5.4361-02	5.9091-02	6.3065-02
680.0	1.0225-02	1.0408-02	1.0493-02	1.0545-02	1.0581-02
695.0	4.6717-02	5.4997-02	6.1401-02	6.6256-02	7.0175-02
710.0	4.6308-02	5.2725-02	5.6302-02	5.8728-02	6.0518-02
723.0	4.3740-02	4.9173-02	5.2157-02	5.4129-02	5.5586-02
732.0	2.3205-02	2.4305-02	2.4838-02	2.5172-02	2.5407-02
766.0	3.3492-02	3.6268-02	3.7685-02	3.8598-02	3.9249-02
782.0	1.5904-02	1.6411-02	1.6653-02	1.6802-02	1.6905-02
792.0	3.4677-02	3.7898-02	3.9571-02	4.0650-02	4.1429-02
825.0	3.7211-02	4.3656-02	4.8510-02	5.2139-02	5.5025-02
855.0	2.9617-02	3.5108-02	3.9204-02	4.2513-02	4.5276-02
859.0	3.5472-02	4.1557-02	4.6086-02	4.9450-02	5.2112-02
867.0	1.0177-02	1.0391-02	1.0490-02	1.0551-02	1.0593-02
896.0	6.0126-03	6.0870-03	6.1208-03	6.1417-03	6.1559-03
909.0	3.0135-02	3.6158-02	4.0305-02	4.2256-02	4.4790-02
928.0	3.3970-02	3.9604-02	4.2949-02	4.5288-02	4.7068-02
940.0	2.4186-02	2.7810-02	3.0805-02	3.3280-02	3.5407-02
960.0	2.3608-02	2.7277-02	3.0230-02	3.2665-02	3.4755-02
983.0	3.9421-03	3.9755-03	3.9907-03	3.9998-03	4.0062-03
995.0	2.1342-02	2.2947-02	2.4388-02	2.5689-02	2.6875-02
Total	1.8008+01	1.8954+01	1.9813+01	2.0504+01	2.1158+01
Unresolved	1.6770+00	1.8309+00	1.9236+00	1.9903+00	2.0422+00

UO_2
(Rod Radius = 1.0 cm)

E_0	300°K	600°K	900°K	1200°K	1500°K
6.7	5.2014+00	5.2686+00	5.3387+00	5.4107+00	5.4835+00
21.0	2.3899+00	2.4386+00	2.4889+00	2.5398+00	2.5906+00
36.9	1.9499+00	1.9787+00	2.0085+00	2.0389+00	2.0697+00
66.3	7.4177-01	7.8201-01	8.2134-01	8.5875-01	8.9425-01
81.3	2.7148-01	3.2540-01	3.5449-01	3.8364-01	4.0750-01
90.0	3.9224-02	4.0558-02	4.1250-02	4.1674-02	4.1981-02
102.5	5.3834-01	5.5589-01	5.7440-01	5.9318-01	6.1175-01
116.5	2.9172-01	3.3927-01	3.7760-01	3.8115-01	4.0959-01
145.6	9.0342-02	1.0029-01	1.0608-01	1.0996-01	1.1282-01
165.2	1.4567-01	1.7177-01	1.9088-01	2.0519-01	2.1664-01
189.6	2.4238-01	2.4900-01	2.5613-01	2.6348-01	2.7094-01
208.5	1.6637-01	1.8460-01	2.0095-01	2.1567-01	2.2952-01
237.5	1.3029-01	1.5485-01	1.7400-01	1.7615-01	1.8976-01
264.5	1.2300-02	1.2557-02	1.2677-02	1.2751-02	1.2805-02
274.0	1.0859-01	1.3211-01	1.4048-01	1.5425-01	1.6610-01
291.0	1.0143-01	1.1910-01	1.3510-01	1.4795-01	1.5873-01
311.5	3.1781-02	3.3764-02	3.4752-02	3.5379-02	3.5828-02
348.0	7.9912-02	9.6117-02	1.0841-01	1.0898-01	1.1335-01
377.0	3.1072-02	3.3229-02	3.4315-02	3.5006-02	3.5503-02
398.5	6.7026-02	8.0423-02	8.8946-02	9.5130-02	9.9994-02
411.0	6.7298-02	8.2240-02	9.2359-02	1.0010-01	1.0638-01
435.0	6.2892-02	7.6205-02	8.4876-02	9.1342-02	9.6470-02
455.0	1.2093-02	1.2437-02	1.2599-02	1.2698-02	1.2768-02
464.0	5.1453-02	5.9627-02	6.4382-02	6.7671-02	7.0151-02
479.0	4.1462-02	4.6441-02	4.9151-02	5.0956-02	5.2275-02
490.0	1.4332-02	1.4840-02	1.5084-02	1.5235-02	1.5341-02
519.0	5.0915-02	5.9834-02	6.7681-02	7.3889-02	7.9078-02
536.0	4.6401-02	5.6292-02	6.0323-02	6.6002-02	7.0843-02

675
014

UO₂--continued

E ₀	300°K	600°K	900°K	1200°K	1500°K
557.0	1.1331-02	1.1671-02	1.1831-02	1.1931-02	1.2001-02
581.0	4.3990-02	5.1660-02	5.8368-02	6.3665-02	6.8084-02
596.0	3.9571-02	4.7732-02	5.3883-02	5.5653-02	5.9699-02
605.0	6.1502-03	6.2535-03	6.3015-03	6.3311-03	6.3508-03
621.0	4.1234-02	4.8684-02	5.4853-02	5.9675-02	6.3651-02
629.0	3.7183-02	4.2523-02	4.5540-02	4.7595-02	4.9117-02
662.0	3.1768-02	3.6480-02	4.0556-02	4.4039-02	4.6203-02
680.0	9.8043-03	1.0090-02	1.0226-02	1.0309-02	1.0366-02
695.0	3.4423-02	4.0284-02	4.5425-02	4.9483-02	5.2868-02
710.0	3.6021-02	4.2480-02	4.6373-02	4.9139-02	5.1250-02
723.0	3.4631-02	4.0376-02	4.3773-02	4.6126-02	4.7915-02
732.0	2.0884-02	2.2424-02	2.3199-02	2.3694-02	2.4047-02
766.0	2.8236-02	3.1643-02	3.3490-02	3.4718-02	3.5616-02
782.0	1.4782-02	1.5535-02	1.5904-02	1.6133-02	1.6295-02
792.0	2.8764-02	3.2579-02	3.4691-02	3.6105-02	3.7151-02
825.0	2.7541-02	3.2246-02	3.6262-02	3.9399-02	4.1980-02
855.0	2.2328-02	2.6192-02	2.9230-02	3.1771-02	3.3931-02
859.0	2.6300-02	3.0809-02	3.4610-02	3.7561-02	3.9981-02
867.0	9.6930-03	1.0024-02	1.0180-02	1.0277-02	1.0344-02
896.0	5.8425-03	5.9608-03	6.0154-03	6.0490-03	6.0721-03
909.0	2.2385-02	2.6922-02	3.0215-02	3.1428-02	3.3557-02
928.0	2.5629-02	3.0752-02	3.4038-02	3.6456-02	3.8364-02
940.0	1.8674-02	2.1046-02	2.3197-02	2.5028-02	2.6638-02
960.0	1.8162-02	2.0604-02	2.2732-02	2.4545-02	2.6140-02
983.0	3.8655-03	3.9194-03	3.9439-03	3.9589-03	3.9692-03
995.0	1.7518-02	1.8415-02	1.9292-02	2.0124-02	2.0909-02
Total	1.3594+01	1.4212+01	1.4709+01	1.5107+01	1.5517+01
Unresolved	1.4573+00	1.6126+00	1.7081+00	1.7778+00	1.8328+00

UO_2
(Rod Radius = 2.0 cm)

E_0	300°K	600°K	900°K	1200°K	1500°K
6.7	4.0102+00	4.0463+00	4.0835+00	4.1215+00	4.1601+00
21.0	1.8598+00	1.8612+00	1.9122+00	1.9393+00	1.9665+00
36.9	1.5540+00	1.5694+00	1.5853+00	1.6015+00	1.6180+00
66.3	6.0299-01	6.2484-01	6.4695-01	6.6855-01	6.8953-01
81.3	2.0839-01	2.4755-01	2.6678-01	2.8828-01	3.0601-01
90.0	3.6554-02	3.8339-02	3.9282-02	3.9871-02	4.0298-02
102.5	4.5584-01	4.6527-01	4.7547-01	4.8611-01	4.9687-01
116.5	2.3161-01	2.6318-01	2.8935-01	2.8421-01	3.0366-01
145.6	1.5387-02	8.5411-02	9.1617-02	9.5909-02	9.9145-02
165.2	1.1210-01	1.3357-01	1.4914-01	1.6107-01	1.7079-01
189.6	2.1267-01	2.1616-01	2.2008-01	2.2425-01	2.2862-01
208.5	1.3954-01	1.5083-01	1.6158-01	1.7152-01	1.8130-01
237.5	1.0442-01	1.2180-01	1.3575-01	1.3394-01	1.4385-01
264.5	1.1822-02	1.2187-02	1.2360-02	1.2468-02	1.2545-02
274.0	8.5793-02	1.0310-01	1.0727-01	1.1751-01	1.2639-01
291.0	7.9276-02	9.1371-02	1.0353-01	1.1343-01	1.2180-01
311.5	2.8552-02	3.1000-02	3.2270-02	3.3093-02	3.3689-02
348.0	6.4017-02	7.5836-02	8.5032-02	8.4583-02	9.0899-02
377.0	2.7666-02	3.0274-02	3.1645-02	3.2538-02	3.3189-02
398.5	5.2681-02	6.3927-02	7.1388-02	7.6967-02	8.1461-02
411.0	5.2273-02	6.4101-02	7.2347-02	7.8799-02	8.4119-02
435.0	4.9150-02	6.0037-02	6.7389-02	7.3021-02	7.7585-02
455.0	1.1485-02	1.1961-02	1.2191-02	1.2333-02	1.2433-02
464.0	4.1663-02	4.9302-02	5.4002-02	5.7375-02	5.9986-02
479.0	3.4779-02	3.9958-02	4.2942-02	4.4998-02	4.6540-02
490.0	1.3451-02	1.4139-02	1.4474-02	1.4689-02	1.4839-02
519.0	4.0089-02	4.6389-02	5.2537-02	5.7484-02	6.1676-02
536.0	3.6887-02	4.4327-02	4.6687-02	5.1081-02	5.4872-02

675 016

UO₂--continued

E ₀	300°K	600°K	900°K	1200°K	1500°K
557.0	1.0736-02	1.1205-02	1.1431-02	1.1572-02	1.1672-02
581.0	3.4691-02	4.0135-02	4.5420-02	4.9667-02	5.3263-02
596.0	3.1613-02	3.7720-02	4.2471-02	4.3143-02	4.6304-02
605.0	5.9643-03	6.1128-03	6.1826-03	6.2258-03	6.2550-03
621.0	3.2478-02	3.7947-02	4.2894-02	4.6841-02	5.0149-02
629.0	3.0557-02	3.5788-02	3.8921-02	4.1134-02	4.2817-02
662.0	2.6243-02	2.9489-02	3.2514-02	3.4384-02	3.7425-02
680.0	9.3051-03	9.7005-03	9.8922-03	1.0011-02	1.0094-02
695.0	2.4610-02	3.1391-02	3.5463-02	3.8739-02	4.1513-02
710.0	2.8821-02	3.4603-02	3.8274-02	4.0978-02	4.3100-02
723.0	2.7970-02	3.3285-02	3.6607-02	3.8997-02	4.0864-02
732.0	1.8540-02	2.0390-02	2.1364-02	2.2002-02	2.2464-02
766.0	2.3736-02	2.7302-02	2.9350-02	3.0760-02	3.1817-02
782.0	1.3553-02	1.4526-02	1.5018-02	1.5330-02	1.5552-02
792.0	2.3907-02	2.7771-02	3.0040-02	3.1616-02	3.2812-02
825.0	2.1825-02	2.5229-02	2.8459-02	3.1035-02	3.3190-02
855.0	1.8206-02	2.1016-02	2.3326-02	2.5302-02	2.6998-02
859.0	2.0848-02	2.4141-02	2.7219-02	2.9662-02	3.1701-02
867.0	9.1295-03	9.5804-03	9.7990-03	9.9354-03	1.0032-02
896.0	5.6344-03	5.8027-03	5.8816-03	5.9305-03	5.9643-03
909.0	1.7898-02	2.1372-02	2.3974-02	2.4630-02	2.6354-02
928.0	2.0251-02	2.4576-02	2.7473-02	2.9674-02	3.1454-02
940.0	1.5588-02	1.7169-02	1.8764-02	2.0153-02	2.1392-02
960.0	1.5067-02	1.6771-02	1.8352-02	1.9732-02	2.0967-02
983.0	3.7697-03	3.8479-03	3.8839-03	3.9059-03	3.9212-03
995.0	1.5385-02	1.5858-02	1.6382-02	1.6912-02	1.7434-02
Total	1.0739+01	1.1145+01	1.1502+01	1.1755+01	1.2032+01
Unresolved	1.2979+00	1.4503+00	1.5455+00	1.6156+00	1.6714+00

815 017

Th^{232} METAL
(Rod Radius = 0.138 cm)

E_0	300°K	600°K	900°K	E_0	300°K	600°K	900°K
21.84	3.1522+00	3.5773+00	3.9158+00	491.0	1.6170-01	1.9023-01	2.0916-01
23.48	3.4842+00	3.8896+00	4.2208+00	513.0	1.5114-02	4.6352-02	4.6939-02
59.55	1.2112+00	1.4452+00	1.6126+00	531.5	1.1226-01	1.2149-01	1.2675-01
69.2	1.7619+00	1.9227+00	2.0718+00	543.0	1.3124-02	1.3227-02	1.3277-02
113.15	8.0068-01	9.5025-01	1.0586+00	573.0	1.2071-01	1.3356-01	1.4137-01
121.0	8.1942-01	9.6908-01	1.0869+00	581.0	1.7861-02	1.8062-02	1.8156-02
128.5	2.4105-02	2.4238-02	2.4296-02	601.5	7.7796-02	8.2199-02	8.4598-02
129.4	4.1968-01	4.6836-01	4.9576-01	621.5	4.2169-02	4.3416-02	4.4015-02
146.2	1.8693-02	1.8777-02	1.8814-02	660.5	1.0406-01	1.1531-01	1.2223-01
154.6	3.5966-02	3.6315-02	3.6462-02	669.0	3.2061-02	8.7852-02	9.1064-02
170.8	6.9257-01	7.8444-01	8.6930-01	679.5	9.8217-02	1.1499-01	1.2747-01
193.0	4.7370-01	5.5625-01	6.1060-01	692.0	1.0040-01	1.1289-01	1.1903-01
196.8	1.3437-02	1.3486-02	1.3512-02	705.0	7.7315-02	8.2672-02	8.5663-02
199.8	3.7532-01	4.3248-01	4.6150-01	717.5	8.5731-02	9.3097-02	9.7340-02
203.0	4.4487-01	5.3004-01	5.8660-01	746.0	8.3835-02	9.7251-02	1.0770-01
221.8	4.3027-01	5.1191-01	5.6872-01	783.0	4.5990-02	4.7850-02	4.8761-02
252.3	3.5669-01	4.2464-01	4.7067-01	810.0	7.8347-02	9.1412-02	1.0055-01
264.0	3.0607-01	3.5568-01	3.8087-01	848.0	6.3445-02	6.7755-02	7.0134-02
286.8	3.1906-01	3.7311-01	4.0765-01	872.0	3.7836-02	3.9179-02	3.9830-02
306.5	2.7082-01	3.1589-01	3.3818-01	896.0	6.3953-02	6.8885-02	7.1697-02
330.4	3.0787-01	3.6304-01	4.0500-01	950.0	6.3036-02	6.8570-02	7.1815-02
343.3	2.4804-01	2.9298-01	3.2234-01	970.0	2.5205-02	2.5803-02	2.6092-02
366.7	2.3109-01	2.7348-01	3.0160-01	990.0	4.9648-02	5.2739-02	5.4335-02
371.0	2.1840-01	2.5339-01	2.7112-01	998.0	6.2423-02	7.0257-02	7.4102-02
402.8	1.3480-01	1.4508-01	1.5082-01	Total Unresolved	1.8801+01	2.1437+01	2.3367+01
413.4	1.9364-01	2.2383-01	2.3855-01		2.4357+00	2.5855+00	2.6725+00
456.4	1.7114-01	1.9662-01	2.0899-01				
465.0	1.7322-01	2.0372-01	2.2382-01				

675 018

Th^{232} METAL
(Rod Radius = 0.275 cm)

E_0	300°K	600°K	900°K	E_0	300°K	600°K	900°K
21.84	2.1053+00	2.3089+00	2.4868+00	465.0	1.2016-01	1.4469-01	1.6237-01
23.48	2.3685+00	2.5501+00	2.7000+00	491.0	1.1218-01	1.3496-01	1.5151-01
59.55	8.0385-01	9.4754-01	1.0533+00	513.0	4.1543-02	4.3556-02	4.4544-02
69.2	1.2991+00	1.3714+00	1.4429+00	531.5	8.9299-02	1.0050-01	1.0743-01
113.15	5.4015-01	6.3569-01	7.0839-01	543.0	1.2809-02	1.2993-02	1.3081-02
121.0	5.6018-01	6.4872-01	7.2178-01	573.0	9.1159-02	1.0478-01	1.1400-01
128.5	2.3628-02	2.3878-02	2.3988-02	581.0	1.7255-02	1.7609-02	1.7775-02
129.4	3.1117-01	3.6105-01	3.9141-01	601.5	6.5896-02	7.2009-02	7.5515-02
146.2	1.8384-02	1.8546-02	1.8616-02	621.5	3.8633-02	4.0638-02	4.1628-02
154.6	3.4811-02	3.5437-02	3.5705-02	660.5	7.8340-02	9.0122-02	9.8214-02
170.8	5.0312-01	5.5220-01	6.0068-01	669.0	6.7205-02	7.4690-02	7.9157-02
193.0	3.2477-01	3.8679-01	4.3079-01	679.5	6.8769-02	8.0628-02	9.0290-02
196.8	1.3249-02	1.3344-02	1.3393-02	692.0	7.4697-02	8.7710-02	9.4369-02
199.8	2.6489-01	3.1557-01	3.4169-01	705.0	6.3500-02	7.0470-02	7.4642-02
203.0	3.0154-01	3.6215-01	4.0551-01	717.5	6.7728-02	7.6489-02	8.2012-02
221.8	2.9270-01	3.4995-01	3.9238-01	746.0	5.8235-02	6.8383-02	7.6262-02
252.3	2.4295-01	2.9275-01	3.2890-01	783.0	4.0924-02	4.3774-02	4.5224-02
264.0	2.1434-01	2.5716-01	2.7898-01	810.0	5.4987-02	6.4949-02	7.2596-02
286.8	2.2119-01	2.6474-01	2.9498-01	848.0	5.2342-02	5.7991-02	6.1347-02
306.5	1.8886-01	2.2708-01	2.4598-01	872.0	3.4151-02	3.6252-02	3.7309-02
330.4	2.1318-01	2.4944-01	2.7922-01	896.0	5.1575-02	5.7726-02	6.1520-02
343.3	1.7083-01	2.0628-01	2.3146-01	950.0	4.9579-02	5.6061-02	6.0234-02
366.7	1.5896-01	1.9190-01	2.1567-01	970.0	2.3494-02	2.4488-02	2.4972-02
371.0	1.5382-01	1.8461-01	2.0033-01	990.0	4.1800-02	4.6088-02	4.8420-02
402.8	1.0857-01	1.2139-01	1.2912-01	998.0	4.6369-02	5.4378-02	5.8461-02
413.4	1.3715-01	1.6426-01	1.7771-01	Total Unresolved	1.3160+01 2.1187+00	1.4850+01 2.2888+00	1.6101+01 2.3905+00
456.4	1.2241-01	1.4612-01	1.5790-01				

Th^{232} METAL
(Rod Radius = 0.55 cm)

E_0	300°K	600°K	900°K	E_0	300°K	600°K	900°K
21.84	1.4348+00	1.5212+00	1.6022+00	491.0	7.8571-02	9.4412-02	1.0653-01
23.48	1.6400+00	1.7115+00	1.7655+00	513.0	3.6518-02	3.9403-02	4.0874-02
59.55	5.4714-01	6.2660-01	6.8306-01	531.5	6.6660-02	7.7428-02	8.4809-02
69.2	9.7358-01	1.0022+00	1.0324+00	543.0	1.2296-02	1.2604-02	1.2751-02
113.15	3.7486-01	4.3054-01	4.7303-01	573.0	6.5613-02	7.6916-02	8.5545-02
121.0	3.9779-01	4.4606-01	4.8686-01	581.0	1.6296-02	1.6870-02	1.7145-02
128.5	2.2836-02	2.3268-02	2.3455-02	601.5	5.2227-02	5.9202-02	6.3529-02
129.4	2.2035-01	2.6061-01	2.8651-01	621.5	3.3715-02	3.6553-02	3.8012-02
146.2	1.7866-02	1.8150-02	1.8273-02	660.5	5.6340-02	6.5997-02	7.3508-02
154.6	3.2953-02	3.3983-02	3.4427-02	669.0	5.1501-02	5.9290-02	6.4402-02
170.8	3.8112-01	4.0492-01	4.2988-01	679.5	4.9829-02	5.7397-02	6.4016-02
193.0	2.2512-01	2.6578-01	2.9535-01	692.0	5.3408-02	6.4299-02	6.9825-02
196.8	1.2932-02	1.3101-02	1.3186-02	705.0	4.8797-02	5.6111-02	6.0910-02
199.8	1.8361-01	2.2059-01	2.3789-01	717.5	5.0335-02	5.8583-02	6.4377-02
203.0	2.0866-01	2.4751-01	2.7634-01	746.0	4.3575-02	4.9135-02	5.4452-02
221.8	2.0413-01	2.4064-01	2.6822-01	783.0	3.4361-02	3.8109-02	4.0120-02
252.3	1.6875-01	2.0151-01	2.2587-01	810.0	3.9457-02	4.6151-02	5.1627-02
264.0	1.3069-01	1.7944-01	1.9343-01	848.0	4.0416-02	4.6405-02	5.0316-02
286.8	1.5382-01	1.8389-01	2.0563-01	872.0	2.9212-02	3.2076-02	3.3586-02
306.5	1.3082-01	1.5813-01	1.7010-01	896.0	3.9017-02	4.5133-02	4.9324-02
330.4	1.5324-01	1.7520-01	1.9436-01	950.0	3.6777-02	4.2766-02	4.7098-02
343.3	1.1871-01	1.4314-01	1.6121-01	970.0	2.1018-02	2.2489-02	2.3232-02
366.7	1.1072-01	1.3325-01	1.5020-01	990.0	3.2889-02	3.7800-02	4.0670-02
371.0	1.0708-01	1.2971-01	1.4011-01	998.0	3.3289-02	3.9888-02	4.3161-02
402.8	8.1863-02	9.4595-02	1.0304-01	Total Unresolved	9.3209+00	1.0361+01	1.1102+01
413.4	9.5639-02	1.1583-01	1.2505-01		1.8172+00	1.9956+00	2.1052+00
456.4	8.5700-02	1.0380-01	1.1226-01				
465.0	8.4006-02	1.0113-01	1.1412-01				

Th^{232} METAL
(Rod Radius = 1.1 cm)

E_0	300°K	600°K	900°K	E_0	300°K	600°K	900°K
21.84	9.9605-01	1.0291+00	1.0623+00	491.0	5.8172-02	6.8828-02	7.7187-02
23.48	1.1504+00	1.1761+00	1.1875+00	513.0	3.0841-02	3.4332-02	3.6196-02
59.55	3.8750-01	4.2897-01	4.3834-01	531.5	4.9612-02	5.8250-02	6.4672-02
69.2	7.3479-01	7.4464-01	7.5574-01	543.0	1.1580-02	1.2042-02	1.2266-02
113.15	2.7221-01	3.0366-01	3.2647-01	573.0	4.8184-02	5.6325-02	6.3136-02
121.0	2.9492-01	3.1986-01	3.4098-01	581.0	1.5008-02	1.5837-02	1.6241-02
128.5	2.1691-02	2.2354-02	2.2639-02	601.5	4.0286-02	4.6786-02	5.1141-02
129.4	1.5777-01	1.8730-01	2.0532-01	621.5	2.8263-02	3.1642-02	3.3470-02
146.2	1.7110-02	1.7553-02	1.7744-02	660.5	4.1437-02	4.8329-02	5.4246-02
154.6	3.0409-02	3.1899-02	3.2547-02	669.0	3.8909-02	4.5588-02	5.0351-02
170.8	2.9879-01	3.0894-01	3.2005-01	679.5	3.8561-02	4.3200-02	4.7559-02
193.0	1.6373-01	1.8953-01	2.0798-01	692.0	3.9275-02	4.7433-02	5.1238-02
196.8	1.2464-02	1.2735-02	1.2868-02	705.0	3.6934-02	4.3249-02	4.7753-02
199.8	1.3229-01	1.5745-01	1.6668-01	717.5	3.7468-02	4.3985-02	4.8988-02
203.0	1.5204-01	1.7641-01	1.9487-01	746.0	3.4272-02	3.7442-02	4.0889-02
221.8	1.5018-01	1.7300-01	1.9013-01	783.0	2.7743-02	3.1827-02	3.4155-02
252.3	1.2370-01	1.4484-01	1.4902-01	810.0	3.0168-02	3.4497-02	3.8220-02
264.0	1.0749-01	1.2863-01	1.3599-01	848.0	3.0709-02	3.5930-02	3.9652-02
286.8	1.1231-01	1.3229-01	1.4675-01	872.0	2.4005-02	2.7266-02	2.9086-02
306.5	9.4833-02	1.1341-01	1.1980-01	896.0	2.9334-02	3.4379-02	3.8174-02
330.4	1.1663-01	1.2948-01	1.4144-01	950.0	2.7432-02	3.2086-02	3.5807-02
343.3	8.7000-02	1.0333-01	1.1553-01	970.0	1.8110-02	1.9975-02	2.0958-02
366.7	8.1466-02	9.6455-02	1.0792-01	990.0	2.5233-02	2.9864-02	3.2755-02
371.0	7.7949-02	9.3671-02	9.9428-02	998.0	2.4700-02	2.9598-02	3.1759-02
402.8	6.1147-02	7.1602-02	7.9067-02	Total Unresolved	6.8151+00	7.4344+00	7.8251+00
413.4	6.9607-02	8.3733-02	8.9104-02		1.5707+00	1.7483+00	1.8597+00
456.4	6.2433-02	7.5277-02	8.0447-02				
465.0	6.2020-02	7.3577-02	8.2538-02				

Th²³² METAL
(Rod Radius = 2.2 cm)

E ₀	300°K	600°K	900°K	E ₀	300°K	600°K	900°K
21.84	6.9937-01	7.1148-01	7.2422-01	491.0	4.6392-02	5.3654-02	5.9443-02
23.48	8.1154-01	8.2068-01	8.1673-01	513.0	2.6020-02	2.9612-02	3.1601-02
59.55	2.8546-01	3.0653-01	3.1567-01	531.5	3.9017-02	4.5752-02	5.0894-02
69.2	5.5320-01	5.4970-01	5.5946-01	543.0	1.0779-02	1.1385-02	1.1681-02
113.15	2.0689-01	2.2463-01	2.3594-01	573.0	3.7799-02	4.3750-02	4.8957-02
121.0	2.2649-01	2.3893-01	2.4877-01	581.0	1.3650-02	1.4681-02	1.5195-02
128.5	2.0349-02	2.1227-02	2.1601-02	601.5	3.2205-02	3.7722-02	4.1544-02
129.4	1.2151-01	1.4127-01	1.5280-01	621.5	2.3730-02	2.7161-02	2.9092-02
146.2	1.6206-02	1.6808-02	1.7065-02	660.5	3.2597-02	3.7595-02	4.2134-02
154.6	2.7649-02	2.9491-02	3.0291-02	669.0	3.0836-02	3.6246-02	4.0237-02
170.8	2.3872-01	2.4201-01	2.4540-01	679.5	3.2283-02	3.4939-02	3.7722-02
193.0	1.2660-01	1.4324-01	1.5458-01	692.0	3.0954-02	3.6421-02	3.9724-02
196.8	1.1901-02	1.2278-02	1.2459-02	705.0	2.9305-02	3.4440-02	3.8236-02
199.8	1.0178-01	1.1917-01	1.2390-01	717.5	2.9555-02	3.4597-02	3.8624-02
203.0	1.1774-01	1.3324-01	1.4524-01	746.0	2.9168-02	3.0716-02	3.2836-02
221.8	1.1750-01	1.3183-01	1.4239-01	783.0	2.2746-02	2.6604-02	2.8893-02
252.3	9.6859-02	1.1068-01	1.2074-01	810.0	2.5010-02	2.7722-02	3.0224-02
264.0	8.3312-02	9.8032-02	1.0190-01	848.0	2.4437-02	2.8710-02	3.1885-02
286.8	8.7715-02	1.0123-01	1.1086-01	872.0	1.9899-02	2.3093-02	2.4954-02
306.5	7.2450-02	8.6527-02	9.0129-02	896.0	2.3264-02	2.7263-02	3.0412-02
330.4	9.4214-02	1.0150-01	1.0877-01	950.0	2.1732-02	2.5285-02	2.8291-02
343.3	6.8436-02	7.9541-02	8.7826-02	970.0	1.5529-02	1.7544-02	1.8652-02
366.7	6.4375-02	7.4497-02	8.2308-02	990.0	2.0155-02	2.4136-02	2.6701-02
371.0	6.0913-02	7.2051-02	7.5323-02	998.0	1.9694-02	2.3342-02	2.4760-02
402.8	4.8059-02	5.6279-02	6.2246-02	Total Unresolved	5.1485+00	5.5349+00	5.7819+00
413.4	5.4370-02	6.4432-02	6.7750-02		1.3960+00	1.5689+00	1.6788+00
456.4	4.8818-02	5.8079-02	6.1409-02				
465.0	4.9292-02	5.7210-02	6.3422-02				

075 022

ThO_2
(Rod Radius = 0.25 cm)

E_0	300°K	600°K	900°K	E_0	300°K	600°K	900°K
21.84	3.3085+00	3.7645+00	4.1273+00	491.0	1.6837-01	1.9715-01	2.1523-01
23.48	3.6469+00	4.0866+00	4.4514+00	513.0	4.5400-02	4.6575-02	4.7131-02
59.55	1.2697+00	1.5127+00	1.6834+00	531.5	1.1445-01	1.2339-01	1.2838-01
69.2	1.8316+00	2.0075+00	2.1692+00	543.0	1.3151-02	1.3245-02	1.3292-02
113.15	8.3863-01	9.9351-01	1.1020+00	573.0	1.2381-01	1.3638-01	1.4380-01
121.0	8.6124-01	1.0187+00	1.1360+00	581.0	1.7911-02	1.8100-02	1.8187-02
128.5	2.4143-02	2.4266-02	2.4320-02	601.5	7.8845-02	8.3066-02	8.5326-02
129.4	4.3063-01	4.7846-01	5.0519-01	621.5	4.2459-02	4.3640-02	4.4203-02
146.2	1.8718-02	1.8795-02	1.8830-02	660.5	1.0680-01	1.1781-01	1.2438-01
154.6	3.6061-02	3.6387-02	3.6523-02	669.0	8.3431-02	8.9017-02	9.2055-02
170.8	7.2722-01	8.2638-01	9.0842-01	679.5	1.0267-01	1.1987-01	1.3177-01
193.0	4.9327-01	5.7678-01	6.3019-01	692.0	1.0320-01	1.1546-01	1.2125-01
196.8	1.3452-02	1.3498-02	1.3522-02	705.0	7.8587-02	8.3753-02	8.6574-02
199.8	3.8813-01	4.4498-01	4.7321-01	717.5	8.7500-02	9.4633-02	9.8645-02
203.0	4.6343-01	5.5026-01	6.0741-01	746.0	8.7625-02	1.0146-01	1.1142-01
221.8	4.5019-01	5.3371-01	5.8928-01	783.0	4.6415-02	4.8187-02	4.9043-02
252.3	3.7274-01	4.4188-01	4.8662-01	810.0	8.1646-02	9.4901-02	1.0360-01
264.0	3.1719-01	3.6666-01	3.9104-01	848.0	6.4467-02	6.8620-02	7.0862-02
286.8	3.3158-01	3.8591-01	4.1942-01	872.0	3.8144-02	3.9417-02	4.0034-02
306.5	2.8024-01	3.2530-01	3.4752-01	896.0	6.5133-02	6.9903-02	7.2551-02
330.4	3.2269-01	3.7984-01	4.2053-01	950.0	6.4372-02	6.9745-02	7.2803-02
343.3	2.5839-01	3.0374-01	3.3202-01	970.0	2.5343-02	2.5911-02	2.6180-02
366.7	2.4093-01	2.8379-01	3.1085-01	990.0	5.0354-02	5.3319-02	5.4816-02
371.0	2.2627-01	2.6113-01	2.7812-01	998.0	6.4224-02	7.1912-02	7.5532-02
402.8	1.3723-01	1.4717-01	1.5264-01	Total Unresolved	1.9600+01	2.2351+01	2.4331+01
413.4	1.9990-01	2.2990-01	2.4452-01		2.4776+00	2.6238+00	2.7083+00
456.4	1.7641-01	2.0168-01	2.1388-01				
465.0	1.8031-01	2.1105-01	2.3027-01				

ThO₂
(Rod Radius = 0.50 cm)

E ₀	300°K	600°K	900°K	E ₀	300°K	600°K	900°K
21.84	2.2611+00	2.4961+00	2.6958+00	491.0	1.1970-01	1.4344-01	1.5979-01
23.48	2.5238+00	2.7366+00	2.9257+00	513.0	4.2147-02	4.4041-02	4.4965-02
59.55	8.6179-01	1.0175+00	1.1330+00	531.5	9.2833-02	1.0382-01	1.1048-01
69.2	1.3729+00	1.4585+00	1.5417+00	543.0	1.2867-02	1.3036-02	1.3118-02
113.15	5.7835-01	6.8137-01	7.5826-01	573.0	9.5638-02	1.0926-01	1.1817-01
121.0	6.0019-01	6.9769-01	7.7454-01	581.0	1.7365-02	1.7692-02	1.7846-02
128.5	2.3716-02	2.3945-02	2.4046-02	601.5	6.7792-02	7.3683-02	7.7011-02
129.4	3.2661-01	3.7669-01	4.0718-01	621.5	3.9230-02	4.1119-02	4.2046-02
146.2	1.8441-02	1.8589-02	1.8654-02	660.5	8.2251-02	9.4053-02	1.0186-01
154.6	3.5017-02	3.5596-02	3.5846-02	669.0	6.9540-02	7.6821-02	8.1075-02
170.8	5.3537-01	5.9149-01	6.4085-01	679.5	7.3406-02	8.6047-02	9.5585-02
193.0	3.4643-01	4.1136-01	4.5644-01	692.0	7.8595-02	9.1639-02	9.8087-02
196.8	1.3284-02	1.3371-02	1.3415-02	705.0	6.5672-02	7.2454-02	7.6418-02
199.8	2.8081-01	3.3265-01	3.5916-01	717.5	7.0515-02	7.9139-02	8.4417-02
203.0	3.2191-01	3.8595-01	4.3126-01	746.0	6.3163-02	7.2965-02	8.0743-02
221.8	3.1346-01	3.7416-01	4.1746-01	783.0	4.1765-02	4.4470-02	4.5829-02
252.3	2.6006-01	3.1253-01	3.4910-01	810.0	5.8598-02	6.9067-02	7.6592-02
264.0	2.2778-01	2.7176-01	2.9376-01	848.0	5.4103-02	5.9586-02	6.2769-02
286.8	2.3559-01	2.8079-01	3.1118-01	872.0	3.4771-02	3.6758-02	3.7748-02
306.5	2.0043-01	2.3978-01	2.5931-01	896.0	5.3519-02	3.9529-02	6.3140-02
330.4	2.2805-01	2.6716-01	2.9717-01	950.0	5.1668-02	5.8065-02	6.2045-02
343.3	1.8242-01	2.1939-01	2.4449-01	970.0	2.3790-02	2.4720-02	2.5171-02
366.7	1.6986-01	2.0430-01	2.2797-01	990.0	4.3060-02	4.7191-02	4.9390-02
371.0	1.6341-01	1.9499-01	2.1063-01	998.0	4.8828-02	5.6877-02	6.0807-02
402.8	1.1261-01	1.2514-01	1.3258-01	Total Unresolved	1.3997+01	1.5823+01	1.7168+01
413.4	1.4515-01	1.7284-01	1.8659-01		2.1864+00	2.3533+00	2.4524+00
456.4	1.2934-01	1.5344-01	1.6541-01				
465.0	1.2820-01	1.5373-01	1.7120-01				

675 024

ThO_2
(Rod Radius = 1.0 cm)

E_0	300°K	600°K	900°K	E_0	300°K	600°K	900°K
21.84	1.6104+00	1.7268+00	1.8316+00	491.0	3.7215-02	1.0472-01	1.1743-01
23.48	1.8167+00	1.9169+00	2.0114+00	513.0	3.7779-02	4.0469-02	4.1837-02
59.55	6.1050-01	7.0454-01	7.7617-01	531.5	7.2063-02	8.2979-02	9.0278-02
69.2	1.0648+00	1.1054+00	1.1468+00	543.0	1.2435-02	1.2710-02	1.2843-02
113.15	4.1687-01	4.8190-01	5.3206-01	573.0	7.1777-02	8.3626-02	9.2323-02
121.0	4.4083-01	4.9922-01	5.4738-01	581.0	1.6551-02	1.7069-02	1.7318-02
128.5	2.3049-02	2.3434-02	2.3605-02	601.5	5.5522-02	6.2345-02	6.6507-02
129.4	2.4131-01	2.8372-01	3.1153-01	621.5	3.4947-02	3.7600-02	3.8957-02
146.2	1.8006-02	1.8258-02	1.8370-02	660.5	5.1674-02	7.1830-02	7.9390-02
154.6	3.3438-02	3.4370-02	3.4781-02	669.0	5.5274-02	6.3038-02	6.8011-02
170.8	4.1604-01	4.4694-01	4.7572-01	679.5	5.4919-02	6.3582-02	7.0535-02
193.0	2.4998-01	2.9537-01	3.2827-01	692.0	5.8600-02	7.0006-02	7.5661-02
196.8	1.3018-02	1.3168-02	1.3244-02	705.0	5.2332-02	5.9613-02	6.4270-02
199.8	2.0322-01	2.4316-01	2.6258-01	717.5	5.4516-02	6.2919-02	6.8627-02
203.0	2.3209-01	2.7601-01	3.0817-01	746.0	4.7828-02	5.4307-02	5.9895-02
221.8	2.2711-01	2.6845-01	2.9894-01	783.0	3.5982-02	3.9540-02	4.1427-02
252.3	1.8789-01	2.2463-01	2.5116-01	810.0	4.3532-02	5.1034-02	5.6748-02
264.0	1.6470-01	1.9823-01	2.1384-01	848.0	4.3298-02	4.9243-02	5.3021-02
286.8	1.7065-01	2.0377-01	2.2717-01	872.0	3.0444-02	3.3142-02	3.4549-02
306.5	1.4499-01	1.7475-01	1.8823-01	896.0	4.2049-02	4.8204-02	5.2285-02
330.4	1.6942-01	1.9497-01	2.1575-01	950.0	3.9872-02	4.6003-02	5.0257-02
343.3	1.3202-01	1.5903-01	1.7824-01	970.0	2.1653-02	2.3012-02	2.3692-02
366.7	1.2312-01	1.4813-01	1.6613-01	990.0	3.5051-02	3.9851-02	4.2589-02
371.0	1.1867-01	1.4313-01	1.5446-01	998.0	3.6513-02	4.3454-02	4.6796-02
402.8	8.8195-02	1.0102-01	1.0938-01	Total Unresolved	1.0312+01	1.1499+01	1.2377+01
413.4	1.0569-01	1.2744-01	1.3759-01		1.9216+00	2.0983+00	2.2058+00
456.4	9.4547-02	1.1391-01	1.2311-01				
465.0	9.3276-02	1.1215-01	1.2580-01				

ThO_2
(Rod Radius = 2.0 cm)

E_0	300°K	600°K	900°K	E_0	300°K	600°K	900°K
21.84	1.2064+00	1.2669+00	1.3237+00	491.0	6.7969-02	8.0930-02	9.0627-02
23.48	1.3695+00	1.4200+00	1.4694+00	513.0	3.3158-02	3.6422-02	3.8163-02
59.55	4.6051-01	5.1850-01	5.6316-01	531.5	5.6901-02	6.6283-02	7.3083-02
69.2	8.5589-01	8.7616-01	8.9739-01	543.0	1.1882-02	1.2282-02	1.2477-02
113.15	3.2052-01	3.6280-01	3.9601-01	573.0	5.5913-02	6.5219-02	7.2676-02
121.0	3.4473-01	3.8073-01	4.1178-01	581.0	1.5547-02	1.6274-02	1.6631-02
128.5	2.2171-02	2.2742-02	2.2998-02	601.5	4.5244-02	5.1895-02	5.6270-02
129.4	1.8522-01	2.1800-01	2.4025-01	621.5	3.0493-02	3.3667-02	3.5376-02
146.2	1.7429-02	1.7808-02	1.7977-02	660.5	4.8085-02	5.6006-02	6.2465-02
154.6	3.1458-02	3.2770-02	3.3365-02	669.0	4.4232-02	5.1289-02	5.6185-02
170.8	3.4102-01	3.5832-01	3.7533-01	679.5	4.4188-02	5.0227-02	5.5337-02
193.0	1.9234-01	2.2443-01	2.4813-01	692.0	4.5644-02	5.4874-02	5.9222-02
196.8	1.2663-02	1.2892-02	1.3008-02	705.0	4.1946-02	4.8600-02	5.3213-02
199.8	1.5548-01	1.8532-01	1.9817-01	717.5	4.3030-02	5.0159-02	5.5429-02
203.0	1.7910-01	2.0997-01	2.3296-01	746.0	3.8960-02	4.3282-02	4.7344-02
221.8	1.7615-01	2.0597-01	2.2679-01	783.0	3.0459-02	3.4413-02	3.6635-02
252.3	1.4533-01	1.7163-01	1.9092-01	810.0	3.4716-02	4.0136-02	4.4439-02
264.0	1.2638-01	1.5152-01	1.6160-01	848.0	3.4816-02	4.0296-02	4.4075-02
286.8	1.3171-01	1.5596-01	1.7350-01	872.0	2.6143-02	2.9251-02	3.0963-02
306.5	1.1153-01	1.3377-01	1.4234-01	896.0	3.3487-02	3.8904-02	4.2817-02
330.4	1.3487-01	1.5202-01	1.6677-01	950.0	3.1507-02	3.6640-02	4.0542-02
343.3	1.0212-01	1.2200-01	1.3646-01	970.0	1.9312-02	2.1023-02	2.1917-02
366.7	9.5505-02	1.1385-01	1.2739-01	990.0	2.8435-02	3.3158-02	3.6031-02
371.0	9.1464-02	1.1007-01	1.1752-01	998.0	2.8614-02	3.4190-02	3.6675-02
402.8	6.9887-02	8.1127-02	8.9052-02	Total Unresolved	7.9972+00	8.8026+00	9.3909+00
413.4	8.1574-02	9.8193-02	1.0503-01		1.7162+00	1.8950+00	2.0059+00
456.4	7.3057-02	8.8029-02	9.4438-02				
465.0	7.2548-02	8.6566-02	9.6974-02				