

Supplementary material B: History of the models discovery for plasma torch in Eureka

10:32:40AM> 2024-Apr-19

10:32:40AM>

10:32:40AM> Search started: $T = f(k, U, P, f)$

10:32:41AM> New solution: Fit: 2172.43 Size: 5 Solution: $T = 5992 - k \cdot U$

10:32:41AM> New solution: Fit: 2029.73 Size: 13 Solution: $T = 1053 \cdot P - 1901 - 5.764 \cdot P^2 \cdot f$

10:32:41AM> New solution: Fit: 1930.32 Size: 20 Solution: $T = 809.7 \cdot P - 233 \cdot k - 193.2 \cdot P \cdot \sin(k \cdot P^2)$

10:32:41AM> New solution: Fit: 2080.24 Size: 11 Solution: $T = 13.68 + 447 \cdot P - P^2 \cdot f$

10:32:41AM> New solution: Fit: 2224.44 Size: 3 Solution: $T = 459 \cdot P$

10:32:41AM> New solution: Fit: 2036.13 Size: 7 Solution: $T = 548.1 \cdot P - 80.39 \cdot k$

10:32:41AM> New solution: Fit: 1779.74 Size: 9 Solution: $T = 5330 + 343 \cdot P - 323.2 \cdot k$

10:32:41AM> New solution: Fit: 1374.62 Size: 11 Solution: $T = 890.1 \cdot P - 5.932 \cdot k \cdot P \cdot f$

10:32:41AM> New solution: Fit: 1361.08 Size: 13 Solution: $T = 749.5 + 825.9 \cdot P - 5.936 \cdot k \cdot P \cdot f$

10:32:41AM> New solution: Fit: 2115.45 Size: 5 Solution: $T = 6438 - 209.4 \cdot k$

10:32:41AM> New solution: Fit: 2183.28 Size: 3 Solution: $T = 400 \cdot P$

10:32:41AM> New solution: Fit: 1262.9 Size: 11 Solution: $T = 720.8 \cdot P - 4.302 \cdot k \cdot P \cdot f$

10:32:41AM> New solution: Fit: 1073.82 Size: 12 Solution: $T = 354.1 \cdot P + 3.814e4/k - 575.5 \cdot f$

10:32:41AM> New solution: Fit: 2181.96 Size: 3 Solution: $T = 392.5 \cdot P$

10:32:41AM> New solution: Fit: 1726.92 Size: 9 Solution: $T = 3874 + 275.3 \cdot P - 209.8 \cdot k$

10:32:41AM> New solution: Fit: 2014.96 Size: 4 Solution: $T = 3.889e4/k$

10:32:42AM> New solution: Fit: 1052.82 Size: 12 Solution: $T = 353.4 \cdot P + 3.455e4/k - 512.3 \cdot f$

10:32:42AM> New solution: Fit: 2013.05 Size: 4 Solution: $T = 3.925e4/k$

10:32:42AM> New solution: Fit: 1567.87 Size: 6 Solution: $T = 3821 \cdot P/k$

10:32:42AM> New solution: Fit: 1406.84 Size: 8 Solution: $T = 698.6 + 3464 \cdot P/k$

10:32:42AM> New solution: Fit: 1052.22 Size: 12 Solution: $T = 349.9 \cdot P + 3.465e4/k - 507.9 \cdot f$

10:32:42AM> New solution: Fit: 1406.7 Size: 8 Solution: $T = 699.4 + 3463 \cdot P/k$

10:32:42AM> New solution: Fit: 1406.7 Size: 10 Solution: $T = 699.4 + (0.03295 + 3463 \cdot P)/k$

10:32:43AM> New solution: Fit: 1540.41 Size: 6 Solution: $T = 4163 \cdot P/k$

10:32:43AM> New solution: Fit: 389.141 Size: 16 Solution: $T = 797.6 + (8346 \cdot P - 781.1 \cdot P \cdot f)/k - f$

10:32:43AM> New solution: Fit: 2181.63 Size: 3 Solution: $T = 393 \cdot P$

10:32:43AM> New solution: Fit: 1051.54 Size: 12 Solution: $T = 351 \cdot P + 3.442e4/k - 503.2 \cdot f$

10:32:43AM> New solution: Fit: 1047.69 Size: 14 Solution: $T = 44.39 + 351 \cdot P + 3.465e4/k - 514 \cdot f$

10:32:43AM> New solution: Fit: 311.492 Size: 16 Solution: $T = 716.6 + (8702 \cdot P - 792 \cdot P \cdot f)/k - f$

10:32:43AM> New solution: Fit: 512.225 Size: 12 Solution: $T = (9027 \cdot P - 786 \cdot P \cdot f)/k$

10:32:43AM> New solution: Fit: 1540.41 Size: 6 Solution: $T = 4163 \cdot P/k$

10:32:43AM> New solution: Fit: 1406.68 Size: 8 Solution: $T = 699.6 + 3463 \cdot P/k$

10:32:43AM> New solution: Fit: 313.487 Size: 14 Solution: $T = 703.5 + (8708 \cdot P - 790.1 \cdot P \cdot f)/k$

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10:32:44AM> New solution: Fit: 1540.38 Size: 6 Solution: $T = 4163 \cdot P/k$
10:32:44AM> New solution: Fit: 1406.65 Size: 8 Solution: $T = 699.7 + 3463 \cdot P/k$
10:32:44AM> New solution: Fit: 308.187 Size: 14 Solution: $T = 694.2 + (8732 \cdot P - 793.6 \cdot P^2 \cdot f)/k$
10:32:44AM> New solution: Fit: 306.916 Size: 19 Solution: $T = 697.8 + (8732 \cdot P - 793.8 \cdot P^2 \cdot f)/k + \sin(f)$
10:32:44AM> New solution: Fit: 307.354 Size: 14 Solution: $T = 697.8 + (8731 \cdot P - 793.7 \cdot P^2 \cdot f)/k$
10:32:45AM> New solution: Fit: 307.172 Size: 14 Solution: $T = 699 + (8731 \cdot P - 793.8 \cdot P^2 \cdot f)/k$
10:32:45AM> New solution: Fit: 306.642 Size: 19 Solution: $T = 698.6 + (8731 \cdot P - 793.8 \cdot P^2 \cdot f)/k + \sin(f)$
10:32:45AM> New solution: Fit: 306.623 Size: 19 Solution: $T = 698.8 + (8731 \cdot P - 793.8 \cdot P^2 \cdot f)/k + \sin(f)$
10:32:45AM> New solution: Fit: 226.037 Size: 21 Solution: $T = 645 + 338.3 \cdot \sin(f) + (8885 \cdot P - 846.9 \cdot P^2 \cdot f)/k$
10:32:45AM> New solution: Fit: 214.692 Size: 21 Solution: $T = 600.7 + 404.5 \cdot \sin(f) + (8955 \cdot P - 862.9 \cdot P^2 \cdot f)/k$
10:32:46AM> New solution: Fit: 307.143 Size: 14 Solution: $T = 699 + (8731 \cdot P - 793.7 \cdot P^2 \cdot f)/k$
10:32:46AM> New solution: Fit: 208.856 Size: 21 Solution: $T = 631.9 + 427.2 \cdot \sin(f) + (8949 \cdot P - 865.2 \cdot P^2 \cdot f)/k$
10:32:46AM> New solution: Fit: 307.095 Size: 14 Solution: $T = 699.2 + (8731 \cdot P - 793.7 \cdot P^2 \cdot f)/k$
10:32:46AM> New solution: Fit: 208.655 Size: 21 Solution: $T = 632 + 427.2 \cdot \sin(f) + (8949 \cdot P - 865.4 \cdot P^2 \cdot f)/k$
10:32:47AM> New solution: Fit: 307.088 Size: 14 Solution: $T = 699.2 + (8731 \cdot P - 793.7 \cdot P^2 \cdot f)/k$
10:32:47AM> New solution: Fit: 208.47 Size: 21 Solution: $T = 637.8 + 427.3 \cdot \sin(f) + (8946 \cdot P - 865.4 \cdot P^2 \cdot f)/k$
10:32:47AM> New solution: Fit: 117.73 Size: 27 Solution: $T = 1052 + (8672 \cdot P + 838.8 \cdot P^2 \cdot \sin(f) - 838.8 \cdot P^2 \cdot f)/k - 77.04 \cdot f$
10:32:47AM> New solution: Fit: 136.203 Size: 23 Solution: $T = 632 + (8929 \cdot P + 880.3 \cdot P^2 \cdot \sin(f) - 880.3 \cdot P^2 \cdot f)/k$
10:32:47AM> New solution: Fit: 307.029 Size: 14 Solution: $T = 699.4 + (8731 \cdot P - 793.7 \cdot P^2 \cdot f)/k$
10:32:47AM> New solution: Fit: 2.78994 Size: 23 Solution: $T = 702.5 + (8994 \cdot P + 708 \cdot P^2 \cdot \sin(f) - 915 \cdot P^2 \cdot f)/k$
10:32:47AM> New solution: Fit: 153.587 Size: 21 Solution: $T = 696 + (8988 \cdot P + 7079 \cdot \sin(f) - 912.5 \cdot P^2 \cdot f)/k$
10:32:48AM> New solution: Fit: 2.65586 Size: 23 Solution: $T = 699.6 + (8991 \cdot P + 714.5 \cdot P^2 \cdot \sin(f) - 914.2 \cdot P^2 \cdot f)/k$
10:32:48AM> New solution: Fit: 306.993 Size: 14 Solution: $T = 699.4 + (8730 \cdot P - 793.7 \cdot P^2 \cdot f)/k$
10:32:48AM> New solution: Fit: 5.43933e-007 Size: 10 Solution: $T = 699.7 + 1.905e4 \cdot P/(k \cdot f)$
10:32:49AM> New solution: Fit: 5.42964e-007 Size: 10 Solution: $T = 699.7 + 1.905e4 \cdot P/(k \cdot f)$
10:32:49AM> New solution: Fit: 5.39077e-007 Size: 10 Solution: $T = 699.7 + 1.905e4 \cdot P/(k \cdot f)$
10:32:50AM> New solution: Fit: 5.3755e-007 Size: 10 Solution: $T = 699.7 + 1.905e4 \cdot P/(k \cdot f)$
10:32:54AM> New solution: Fit: 2012.92 Size: 4 Solution: $T = 3.922e4/k$
10:32:55AM> New solution: Fit: 2012.92 Size: 4 Solution: $T = 3.922e4/k$
10:32:55AM> New solution: Fit: 415.368 Size: 8 Solution: $T = 2.08e4 \cdot P/(k \cdot f)$
10:32:56AM> New solution: Fit: 5.34845e-007 Size: 10 Solution: $T = 699.7 + 1.905e4 \cdot P/(k \cdot f)$
10:32:59AM> New solution: Fit: 5.23118e-007 Size: 14 Solution: $T = 699.7 + 1.881e-8 \cdot P + 1.905e4 \cdot P/(k \cdot f)$
10:32:59AM> New solution: Fit: 2012.92 Size: 4 Solution: $T = 3.921e4/k$
10:33:00AM> New solution: Fit: 399.506 Size: 8 Solution: $T = 2.116e4 \cdot P/(k \cdot f)$
10:33:01AM> New solution: Fit: 399.5 Size: 8 Solution: $T = 2.116e4 \cdot P/(k \cdot f)$
10:33:08AM> New solution: Fit: 2509.92 Size: 1 Solution: $T = 3874$

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10:33:21AM> New solution: Fit: 1538.83 Size: 6 Solution: $T = 2.101e5/(k*f)$
10:33:22AM> New solution: Fit: 2012.89 Size: 4 Solution: $T = 3.921e4/k$
10:33:22AM> New solution: Fit: 2012.89 Size: 4 Solution: $T = 3.921e4/k$
10:33:23AM> New solution: Fit: 1537.38 Size: 6 Solution: $T = 2.118e5/(k*f)$
10:33:23AM> New solution: Fit: 1537.38 Size: 6 Solution: $T = 2.118e5/(k*f)$
10:33:24AM> New solution: Fit: 1537.38 Size: 6 Solution: $T = 2.118e5/(k*f)$
10:33:36AM> New solution: Fit: 399.492 Size: 8 Solution: $T = 2.116e4*P/(k*f)$
10:33:37AM> New solution: Fit: 399.488 Size: 8 Solution: $T = 2.116e4*P/(k*f)$
10:33:37AM> New solution: Fit: 399.483 Size: 8 Solution: $T = 2.116e4*P/(k*f)$
10:33:38AM> New solution: Fit: 399.48 Size: 8 Solution: $T = 2.116e4*P/(k*f)$
10:33:38AM> New solution: Fit: 5.06332e-007 Size: 19 Solution: $T = 699.7 + -7.751e-8*k*f/P + 1.905e4*P/(k*f)$
10:33:38AM> New solution: Fit: 399.48 Size: 8 Solution: $T = 2.116e4*P/(k*f)$
10:33:39AM> New solution: Fit: 399.473 Size: 8 Solution: $T = 2.116e4*P/(k*f)$
10:33:39AM> New solution: Fit: 399.461 Size: 8 Solution: $T = 2.116e4*P/(k*f)$
10:33:40AM> New solution: Fit: 399.217 Size: 8 Solution: $T = 2.115e4*P/(k*f)$
10:33:40AM> New solution: Fit: 1537.22 Size: 6 Solution: $T = 2.116e5/(k*f)$
10:33:41AM> New solution: Fit: 5.10125e-007 Size: 14 Solution: $T = 699.7 + 7.446e-8*P + 1.905e4*P/(k*f)$
10:33:44AM> New solution: Fit: 399.217 Size: 8 Solution: $T = 2.115e4*P/(k*f)$
10:34:54AM> New solution: Fit: 5.05624e-007 Size: 14 Solution: $T = 699.7 + 5.41e-8*P + 1.905e4*P/(k*f)$
10:34:56AM> New solution: Fit: 5.04904e-007 Size: 14 Solution: $T = 699.7 + 5.407e-8*P + 1.905e4*P/(k*f)$
10:35:01AM> New solution: Fit: 2509.92 Size: 1 Solution: $T = 3874$
10:35:02AM> New solution: Fit: 2181.63 Size: 3 Solution: $T = 393*P$
10:35:31AM> New solution: Fit: 5.33685e-007 Size: 10 Solution: $T = 699.7 + 1.905e4*P/(k*f)$
10:35:59AM> Search stopped