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# FASTT VERSUS IRAS

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In the course of work on the Wachmann SA 98 variables (Skiff 1999a) and the Chavira infrared stars (Skiff 1999b), I noticed numerous identifications within SIMBAD involving a list of suspected variables found by Henden & Stone (1998) using the USNO–Flagstaff 20-cm transit circle, dubbed 'FASTT' (Flagstaff Astrometric Scanning Transit Telescope). Although about 100 of the 1600 stars were accurately matched within the GCVS (see Henden & Stone's Table 3), other external identifications were not made.

I have compared the list against the IRAS point-source and IRAS "faint-source" catalogues using the Strasbourg 'VizieR' facility. The table shows the 160-odd match-ups found within 20″ of the high-precision FASTT coordinates. This search radius is similar to the major axis of the typical IRAS position error-ellipse. In fact, the great majority of the IRAS sources were within ∼5″ of the FASTT star. All but a few of these correspond to cool AGB variables, where the 12/25 $\mu$m IRAS flux ratios are $\geq 1.5$, with generally *no* detection at 60 $\mu$m or 100 $\mu$m (*cf.* Figure 1 of Zijlstra *et al.* 1990). The only two IRAS coincidences having odd IRAS 'colors' are two extragalactic objects: one is a quasar (FASTT 159), the other is the center of a nearby galaxy (FASTT 543 = NGC 4653). Since the FASTT astrometric reference frame included extragalactic radio sources (*cf.* Stone 1997), high-$z$ objects were commonly on the observing program.

The table preserves the precise (∼50 mas) coordinates of the on-line version of the original file. (I have made the positive Declination signs explicit, however.) The next column shows IRAS names. While all the ordinary IRAS point-sources are present in SIMBAD, most of the "faint-source" catalogue objects are not unless there is some published study of them. The last column shows various 'new' IDs, specifically names not linked with the FASTT stars in SIMBAD. If the IRAS name is already linked with a variable-star name in SIMBAD, then the GCVS name alone is given. This is to emphasize the GCVS name as a primary identifier for the object. A few longer notes are given at the bottom of the list.

I appreciate the comments of Arne Henden on the results of this search.

Table 1: Identifications for FASTT suspected variables

| FASTT | RA (2000) | Dec | IRAS | Identifications |
|---|---|---|---|---|
| 32 | 00 47 53.1434 | −01 18 58.884 | | SX Cet |
| 74 | 03 54 30.2308 | +01 24 19.155 | 03519+0115 | |
| 104 | 03 28 18.6865 | −01 32 58.175 | F03257−0143 | |
| 109 | 04 15 20.2203 | +01 18 00.209 | 04127+0110 | NSV 15930 |
| 112 | 04 21 27.2441 | +01 29 13.293 | 04188+0122 | [TI98] 0418+0122 |
| 132 | 04 33 44.9156 | +00 01 36.565 | | BD Eri |
| 135 | 04 17 07.8421 | −00 25 06.634 | F04145−0032 | |
| 159 | 04 23 15.7858 | −01 20 33.320 | 04207−0127 | Ohio A 129; quasar |
| 166 | 07 02 59.4231 | +01 09 53.852 | 07004+0114 | V529 Mon |
| 167 | 07 03 31.2546 | +01 01 37.802 | 07009+0106 | |
| 175 | 07 07 06.5880 | +00 46 35.045 | 07045+0051 | |
| 182 | 07 14 06.4834 | +00 57 46.885 | 07115+0103 | |
| 187 | 07 18 42.9948 | +01 11 11.122 | 07161+0116 | |
| 193 | 07 29 20.9854 | +00 49 55.576 | 07267+0056 | |
| 196 | 07 29 36.9737 | +01 01 41.164 | 07270+0107 | |
| 202 | 07 08 18.0761 | +00 41 12.978 | 07057+0046 | |
| 215 | 07 25 28.5258 | +00 35 12.196 | 07229+0041 | |
| 233 | 07 05 10.3269 | −00 00 04.009 | 07026+0004 | |
| 267 | 07 03 39.6407 | −00 16 05.930 | 07011−0011 | |
| 276 | 07 08 56.4741 | −00 17 24.450 | 07063−0012 | CGCS 1568 = C* 677 |
| 291 | 07 20 06.8815 | −00 06 26.843 | 07175−0000 | |
| 296 | 07 25 04.6868 | −00 24 23.206 | 07225−0018 | GSC 4817-0788 |
| 303 | 07 03 46.0795 | −00 37 28.989 | 07012−0032 | |
| 308 | 07 13 53.0339 | −00 30 59.792 | 07113−0025 | |
| 309 | 07 14 16.1709 | −00 32 17.875 | 07117−0027 | |
| 312 | 07 19 25.9116 | −00 43 28.583 | 07168−0037 | |
| 316 | 07 25 52.1458 | −00 40 36.849 | 07233−0034 | |
| 318 | 07 28 28.1777 | −00 45 04.412 | 07259−0038 | |
| 323 | 07 04 06.0017 | −01 07 29.365 | 07015−0102 | |
| 336 | 07 24 33.3033 | −00 56 40.028 | 07220−0050 | CGCS 1697 = C* 748 |
| 342 | 07 11 05.9770 | −01 18 17.679 | 07085−0113 | |
| 344 | 07 12 23.4642 | −01 24 52.332 | 07098−0119 | MW Mon |
| 352 | 07 18 38.9907 | −01 16 52.135 | 07161−0111 | [LRS87] 45 |
| 358 | 07 23 24.5557 | −01 20 22.284 | 07208−0114 | |
| 362 | 07 51 08.0034 | +00 56 34.266 | 07485+0104 | |
| 364 | 07 52 56.0964 | +01 09 40.624 | | AE CMi |
| 366 | 07 55 11.0387 | +01 27 55.012 | 07526+0135 | |
| 369 | 08 01 01.7891 | +01 20 15.742 | F07584+0128 | |
| 381 | 07 55 01.0419 | +00 23 36.725 | 07524+0031 | |
| 382 | 07 59 38.9088 | +00 30 28.021 | 07570+0038 | AF CMi |
| 405 | 08 12 37.5712 | −00 02 14.347 | 08100+0006 | |
| 415 | 07 57 24.1364 | −00 09 29.495 | 07548−0001 | |
| 430 | 07 54 19.3442 | −00 40 08.572 | 07517−0032 | NSV 3799 |
| 434 | 07 57 43.2547 | −00 41 06.397 | 07551−0032 | see note |
| 511 | 10 52 46.9340 | −01 10 46.623 | | SY Leo |
| 537 | 12 34 41.6025 | −00 14 14.125 | 12321+0002 | StM 172 |
| 543 | 12 43 50.9177 | −00 33 40.685 | 12412−0017 | NGC 4653; galaxy nucleus |
| 615 | 13 28 35.2976 | −01 05 54.441 | 13260−0050 | WX Vir |
| 648 | 15 26 10.6800 | +00 31 56.443 | F15236+0042 | NSV 7075 |
| 727 | 16 02 49.1800 | +00 36 40.478 | 16002+0044 | DW Ser |
| 730 | 16 11 32.5571 | +00 31 10.394 | 16090+0038 | |
| 745 | 16 15 19.8039 | +00 13 45.820 | | CL Ser |
| 757 | 16 07 08.1700 | −00 18 53.780 | | AI Ser |
| 780 | 16 16 55.4144 | −00 50 42.626 | 16143−0043 | NSV 7594 |

Table 1: Identifications for FASTT suspected variables (cont'd.)

| FASTT | RA (2000) | Dec | IRAS | Identifications |
|---|---|---|---|---|
| 811 | 16 19 37.2845 | −01 15 47.359 | 16170−0108 | CM Ser |
| 817 | 17 42 40.1407 | +00 56 10.211 | 17401+0057 | |
| 819 | 17 43 21.8610 | +01 02 00.378 | 17408+0103 | V1070 Oph |
| 820 | 17 45 22.5865 | +01 07 17.430 | F17428+0108 | |
| 825 | 17 46 51.2143 | +00 56 08.247 | | V377 Oph |
| 826 | 17 47 37.1640 | +01 32 37.494 | 17450+0133 | V458 Oph |
| 837 | 17 55 47.1611 | +00 56 38.666 | 17532+0057 | V472 Oph |
| 845 | 17 57 55.7259 | +00 58 23.449 | | V474 Oph |
| 847 | 17 58 38.8167 | +01 26 20.564 | | V984 Oph, see note |
| 863 | 18 02 27.2489 | +01 03 16.928 | F17598+0103 | |
| 866 | 18 03 28.4574 | +01 16 30.610 | 18009+0116 | |
| 871 | 18 04 07.4571 | +01 17 55.618 | 18015+0117 | |
| 873 | 18 05 18.6545 | +01 05 42.243 | 18027+0105 | |
| 879 | 18 10 04.7573 | +00 45 56.229 | 18075+0045 | |
| 881 | 18 10 54.5518 | +00 48 20.463 | 18083+0047 | |
| 882 | 18 11 06.0895 | +01 03 31.248 | 18085+0102 | V402 Oph |
| 895 | 17 46 00.9548 | +00 39 30.781 | F17434+0040 | |
| 899 | 17 52 12.2087 | +00 25 30.357 | F17496+0026 | |
| 900 | 17 52 22.6824 | +00 35 01.126 | 17498+0035 | |
| 901 | 17 53 41.4645 | +00 35 11.462 | 17511+0035 | |
| 907 | 18 00 00.2026 | +00 32 19.821 | F17574+0032 | V1082 Oph |
| 908 | 18 01 07.0345 | +00 41 44.912 | 17585+0041 | V482 Oph = IRC +00334 |
| 915 | 18 09 48.8309 | +00 39 48.726 | 18072+0039 | |
| 937 | 17 46 25.7490 | +00 15 23.653 | 17438+0016 | |
| 945 | 17 53 54.8518 | +00 00 04.850 | | V384 Oph |
| 973 | 18 10 00.2548 | +00 05 53.519 | 18074+0005 | |
| 974 | 18 10 05.2329 | +00 17 52.865 | 18075+0017 | |
| 978 | 18 11 52.3788 | +00 00 02.165 | 18093−0000 | |
| 985 | 17 47 39.4879 | −00 03 34.320 | F17451−0002 | |
| 990 | 17 51 37.3809 | −00 17 58.092 | 17490−0017 | |
| 997 | 18 02 30.9173 | −00 05 59.038 | | AX Ser |
| 999 | 18 03 21.6779 | −00 25 51.742 | F18008−0026 | NSV 10095 |
| 1004 | 18 05 37.6780 | −00 26 19.377 | 18030−0026 | EQ Ser |
| 1009 | 18 09 17.6603 | −00 18 45.635 | 18067−0019 | YZ Ser |
| 1022 | 18 01 58.6797 | −00 12 16.357 | F17594−0012 | |
| 1024 | 18 03 18.0429 | −00 11 57.630 | 18007−0012 | |
| 1034 | 17 48 03.2524 | −00 41 05.988 | | KT Oph |
| 1036 | 17 49 19.6661 | −00 28 39.842 | 17467−0027 | |
| 1040 | 17 52 49.9225 | −00 32 40.108 | F17502−0032 | |
| 1041 | 17 52 53.1267 | −00 39 12.009 | F17503−0038 | |
| 1042 | 17 53 16.9721 | −00 28 07.869 | F17506−0027 | V467 Oph, see note |
| 1046 | 17 57 39.2992 | −00 46 24.568 | 17550−0046 | |
| 1050 | 17 58 21.5248 | −00 39 32.955 | 17557−0039 | |
| 1051 | 17 58 23.8998 | −00 39 21.896 | F17558−0039 | |
| 1055 | 17 59 56.9239 | −00 32 20.466 | 17573−0032 | |
| 1060 | 18 00 16.0424 | −00 42 28.243 | F17576−0042 | |
| 1063 | 18 00 55.2952 | −00 38 17.528 | | XY Ser |
| 1072 | 18 05 19.1262 | −00 30 10.678 | 18027−003 | |
| 1074 | 18 05 48.6384 | −00 43 05.721 | | VZ Ser |
| 1082 | 18 12 21.3856 | −00 28 01.824 | 18097−0028 | |
| 1087 | 18 09 45.1566 | −00 32 41.693 | 18071−0033 | |
| 1101 | 17 54 26.5275 | −01 00 24.907 | 17518−0059 | V385 Oph |
| 1104 | 17 55 52.2434 | −01 02 36.240 | 17532−0102 | |
| 1108 | 17 57 03.6086 | −01 06 33.187 | F17544−0106 | |

Table 1: Identifications for FASTT suspected variables (cont'd.)

| FASTT | RA (2000) | Dec | IRAS | Identifications |
|---|---|---|---|---|
| 1133 | 18 06 44.9449 | −00 52 19.488 | 18041−0052 | |
| 1136 | 17 44 45.1927 | −01 31 47.686 | | V935 Oph = IRC +00318 |
| 1138 | 17 48 27.1099 | −01 31 15.152 | 17458−0130 | |
| 1141 | 17 51 37.9303 | −01 32 21.662 | 17490−0131 | V463 Oph |
| 1143 | 17 56 23.7921 | −01 17 28.503 | 17538−0117 | NSV 9877 |
| 1145 | 17 57 54.5980 | −01 25 26.713 | F17553−0125 | |
| 1146 | 17 58 05.8084 | −01 37 21.820 | F17554−0137 | |
| 1152 | 18 00 47.7425 | −01 33 35.187 | F17582−0133 | |
| 1153 | 18 01 04.4135 | −01 20 51.984 | | XZ Ser |
| 1161 | 18 08 52.7727 | −01 30 28.786 | 18062−0131 | |
| 1162 | 18 09 08.4981 | −01 14 40.372 | 18065−0115 | |
| 1165 | 18 35 13.7974 | +01 24 49.898 | 18326+0122 | |
| 1167 | 18 37 10.0260 | +01 24 05.004 | 18346+0121 | |
| 1171 | 18 45 17.2881 | +00 56 29.886 | 18427+0053 | |
| 1172 | 18 45 35.5724 | +00 57 58.415 | 18430+0054 | |
| 1176 | 18 53 34.2286 | +00 48 55.589 | 18510+0045 | |
| 1178 | 19 02 04.9601 | +00 57 48.999 | 18595+0053 | |
| 1179 | 19 02 21.1236 | +01 30 41.135 | 18598+0126 | |
| 1180 | 19 02 39.6317 | +01 29 13.653 | 19001+0124 | |
| 1184 | 18 36 37.3952 | +00 36 35.331 | 18340+0034 | |
| 1186 | 18 43 24.1459 | +00 39 14.132 | 18408+0036 | |
| 1187 | 18 44 47.7892 | +00 22 30.559 | 18422+0019 | |
| 1193 | 18 55 41.6988 | +00 20 49.093 | 18531+0016 | |
| 1194 | 18 56 30.1236 | +00 30 32.783 | 18539+0026 | |
| 1196 | 19 02 41.5626 | +00 36 12.680 | 19001+0031 | |
| 1200 | 18 44 18.8382 | −00 00 09.374 | 18417−0003 | |
| 1211 | 18 54 02.2636 | +00 15 34.845 | 18514+0011 | |
| 1215 | 18 56 24.1583 | +00 14 48.389 | 18538+0010 | |
| 1216 | 18 56 26.1954 | −00 04 26.487 | 18538−0008 | |
| 1217 | 18 59 12.2597 | +00 14 16.264 | 18566+0010 | |
| 1218 | 19 00 13.6357 | −00 04 34.734 | 18576−0008 | |
| 1230 | 18 41 28.4685 | −00 12 10.704 | 18389−0015 | |
| 1231 | 18 42 38.2593 | −00 08 31.188 | 18400−0011 | |
| 1267 | 18 37 05.1096 | −00 28 39.106 | 18345−0031 | |
| 1268 | 18 37 36.1267 | −00 40 46.521 | 18350−0043 | |
| 1270 | 18 45 04.1981 | −00 46 47.339 | 18424−0050 | |
| 1271 | 18 49 11.7071 | −00 41 43.431 | 18466−0045 | |
| 1272 | 18 50 31.7898 | −00 43 24.834 | 18479−0047 | |
| 1286 | 18 53 03.7156 | −00 40 46.440 | 18504−0044 | |
| 1296 | 18 54 27.9018 | −00 36 46.858 | 18518−0040 | |
| 1300 | 18 54 44.2514 | −00 49 09.864 | 18521−0053 | |
| 1309 | 18 56 08.7053 | −00 28 33.897 | 18535−0032 | IRC +00395 |
| 1326 | 19 00 59.8551 | −00 48 46.145 | 18584−0053 | |
| 1330 | 19 02 12.8037 | −00 44 21.301 | 18596−0048 | |
| 1332 | 19 02 25.7121 | −00 30 14.740 | 18598−0034 | |
| 1346 | 18 34 14.7470 | −00 58 43.529 | 18316−0101 | IRC +00357 |
| 1360 | 18 51 53.8026 | −00 58 45.016 | 18493−0102 | |
| 1379 | 18 55 18.4894 | −01 00 48.226 | 18527−0104 | |
| 1380 | 18 55 20.6223 | −01 05 31.560 | 18527−0109 | |

Table 1: Identifications for FASTT suspected variables (cont'd.)

| FASTT | RA (2000) | Dec | IRAS | Identifications |
|---|---|---|---|---|
| 1427 | 19 00 03.4187 | −00 50 59.648 | 18574−0055 | |
| 1442 | 18 41 07.1615 | −01 35 10.384 | 18385−0138 | |
| 1443 | 18 41 21.2270 | −01 25 28.476 | 18387−0128 | |
| 1444 | 18 41 28.7498 | −01 27 04.275 | 18388−0130 | |
| 1455 | 18 54 55.9321 | −01 21 22.100 | 18523−0125 | |
| 1461 | 18 58 38.0914 | −01 30 17.282 | 18560−0134 | |
| 1463 | 18 59 11.2937 | −01 19 09.753 | 18565−0123 | V886 Aql |
| 1466 | 19 00 09.6063 | −01 34 56.970 | | VX Aql |
| 1530 | 22 05 36.9379 | −00 49 38.997 | 22030−0104 | |

Notes:

434 CGCS 1960 = C* 961, but *not* HIP 38915, whose coordinates are for another star (*i.e.* Hipparcos missed the carbon star).
847 evidently not IRAS 17561+0126 (outside position error ellipse).
1042 SIMBAD position in error, *cf.* Manek (1997).

References:

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Skiff, B. A., 1999a, *IBVS*, No. 4676
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