

Memo 4C-3/119

To: Distribution
From: ^{fhd} F. Hirschbichler, ^{HDC} H.D. Lemmel, ^{CA} A. Calamand, ^{MLC} J.R. Lemley
Subject: Statistics 21 February 1975

Please, find attached the NDS statistics for data requests and data dissemination, for the period 1 January 1974 to 31 December 1974. This period was chosen instead of the agreed 1 April deadline which is not suitable this time due to the early date of the 4C-Meeting.


Table 1b splitting the request statistics by government-lab / university / industry, does not apply to the NDS area, where government labs and university institutes can, in general, not be distinguished. We have one important requestor from industry, namely the Skoda works in CSR, who requested all available UK and ENDF/B evaluated data.

Re table II we refer to the Exfor exchange statistics by NDCC.

Towards the end of this memo you will find a list of some neutron data which we are aware of but which were not yet transmitted in Exfor.

Distribution:

L. Lesca, NDCC (5)
S. Pearlstein, NNCSC (5)
V. Manokhin, CJD (5)

Clearance: J.J. Schmidt 

NDS: P.M. Attree
A. Calamand
G. Lammer
H.D. Lemmel
A. Lorenz
K. Okamoto
J.J. Schmidt
file

REQUEST STATISTICS

TABLE Ia
1 Jan. 1974 to 31 Dec. 1974

AREA 3

| Country origin | Experimental | Evaluated | CINDA retrievals | RENDA retrievals | Documents | Total (74) | Total previous year. (73) |
|----------------|--------------|-----------|------------------|------------------|-----------|------------|---------------------------|
| <u>AREA 1</u> | | | | | | | |
| NNCSC | 1 | | | | 1 | 2 | 9 |
| Canada | | | | | 2 | 2 | 1 |
| USA | 1 | | | | 12 | 13 | 11 |
| <u>AREA 2</u> | | | | | | | |
| NDCC | 5 | | 9 | | 2 | 16 | 16 |
| AUS | 1 | 2 | | | 2 | 5 | 1 |
| BLG | | | | | 1 | 1 | 4 |
| FR | | | | | 8 | 8 | 6 |
| GER | | | | | 3 | 3 | 10 |
| ITY | - | - | - | | - | - | 2 |
| NED | | | | | 1 | 1 | 1 |
| NOR | - | - | - | | - | - | 1 |
| SAC | | | | | 1 | 1 | |
| SWD | 1 | | | | 1 | 2 | 1 |
| SWT | | 2 | | | 2 | 4 | 3 |
| UK | | | | | 3 | 3 | 2 |
| <u>AREA 3</u> | | | | | | | |
| ARG | 1 | | | | 1 | 2 | 1 |
| AUL | 1 | | 1 | | | 2 | 0 |
| BAN | 1 | 1 | | | | 2 | 1 |
| BZL | 1 | 1 | | | | 2 | 3 |
| CHL | 1 | | | | | | 1 |
| CSR | 3 | 2 | 1 | | 1 | 7 | 4 |
| DDR | 3 | 3 | | | 2 | 8 | 6 |
| HUN | | 2 | | | 3 | 5 | 8 |
| IAE | | 1 | | | | 1 | 0 |
| IND | 3 | 3 | | 1 | 7 | 14 | 13 |
| ISL | 2 | 1 | | | 4 | 7 | 2 |
| KOR | | 1 | | | | 1 | 3 |
| PAK | | | | | | | 1 |
| POL | 2 | 1 | | | 1 | 4 | 2 |
| RUM | 1 | | | | 3 | 4 | 2 |
| SAF | 2 | 1 | | | | 3 | 4 |
| UAR | 1 | 1 | | | | 2 | 0 |
| VEN | | | | | 1 | 1 | 0 |
| YUG | 2 | | | 1 | 1 | 4 | 1 |
| <u>AREA 4</u> | | | | | | | |
| CJD | 1 | 2 | | | | 3 | 3 |
| CCP | | | | | 1 | 1 | 5 |
| DUB | | | | | 1 | 1 | |
| | 33 | 24 | 11 | 2 | 65 | 135 | 128 |

REQUEST STATISTICS

TABLE Ic

1 Jan. 1974 to 31 Dec. 1974

AREA 3

| Request Disposition | Number of requests for data | | | | | Total | Total Previous Year |
|---------------------|-----------------------------|-----------|------------------|------------------|-----------|-------|---------------------|
| | Experimental | Evaluated | CINDA retrievals | RENDA retrievals | Documents | | |
| Fulfilled | 27 | 21 | 11 | 2 | 58 | 119 | 101 |
| Partially Fulfilled | 1 | 2 | | | 4 | 7 | 15 |
| Unfulfilled | | | . | | 2 | 2 | 10 |
| Pending | 5 | 1 | | | 1 | 7 | 2 |
| Total | 33 | 24 | 11 | 2 | 65 | 135 | 128 |

DISSEMINATION STATISTICS

TABLE II

1 Jan. 1974 to 31 Dec. 1974

AREA 3

| Data Type | Amount | | |
|-----------------------------|--|------------|-------------|
| | Data Sets | containing | Data Points |
| Experimental (total) | 1690 | | 118.657 |
| Exfor 1-4 | 1101 | | 107.717 |
| Exfor 5-8 | 345 | | 6.271 |
| Dastar (Areas 1,2,4) | 244 | | 4.669 |
| Evaluated (total) | 2583 | Data Files | |
| KEDAK | 168 | " " | |
| UKNDL | 327 | " " | |
| ENDF | 3 | " " | |
| AUL & BOL | 1103 | " " | |
| BOYAD | 2 | " " | |
| DASTAR | 771 | " " | |
| LLLENDL | 10 | " " | |
| MUSGROVE | 199 | " " | |
| Bibliographic | Only Requests for Cinda retrievals were counted (see table Ic), not the number of Cinda entries per request. | | |
| Documents (total) | 16 946 | | |
| individual requests | 109 | | |
| Distribution of INDC docs. | 15 283 | | |
| Distribution of other docs. | 1 554 | | |

TABLE 3

Z A Q R E Q U E S T S T A T I S T I C S

1 Jan. 1974 to 31 Dec. 1974

AREA 3

| Element | A | All | TOT | SEL DEL | SIN DIN | NG SNG | NF | N2N NA ND NT | RES | other |
|---------|-----|-----|-----|------------|------------|-----------|----|-----------------------|-----|-------|
| ALL | | | | | | | | | | |
| MANY | | | | | | | | | | |
| H | | | | | | | | | | |
| Li | | | | | | | | | | |
| Be | | | | | | | | | | |
| B | | | | | | | | | | |
| C | | | | | | | | | | |
| N | | | | | | | | | | |
| F | | | | | | | | | | |
| Ca | | | | | | | | | | |
| Ti | | | | | | | | | | |
| Ni | | | | | | | | | | |
| Se | | | | | | | | | | |
| Nb | | | | | | | | | | |
| Rh | | | | | | | | | | |
| Cd | | | | | | | | | | |
| In | | | | | | | | | | |
| Sn | | | | | | | | | | |
| Sb | | | | | | | | | | |
| Nd | | | | | | | | | | |
| Dy | | | | | | | | | | |
| Au | | | | | | | | | | |
| Th | | | | | | | | | | |
| U | 235 | | | | | | | | | |
| U | 238 | | | | | | | | | |
| Pu | 239 | | | | | | | | | |

Development by year

| | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|------|------|------|------|-------|
| Number of Cinda entries, cumulative (T = thousand) | 65 T | 73 T | 87 T | 98 T | 108 T |
| Number of Exfor subentries, series 1-4 | | | | | |
| a) exchanged per year, new ones | 304 | 1837 | 3070 | 2810 | 2655 |
| b) exchanged per year, revised | 0 | 8 | 462 | 336 | 173 |
| c) total library, cumulative | 304 | 2141 | 5211 | 8021 | 10676 |

(Source: H.Potters, 75-1-20)

Number of data sets disseminated in area 3

| | | | | | |
|---------------------------|-----|------|------|--------|------|
| a) experimental, per year | 127 | 353 | 1099 | 7671 * | 1690 |
| b) evaluated, per year | 201 | 1494 | 3186 | 1948 | 2695 |
| c) total, per year | 328 | 1847 | 4285 | 9619 * | 4385 |

* including distribution of \bar{v} compilation, etc.

Number of data lines disseminated in area 3

| | | | | | |
|---------------------------|-------|--------|-------|-------|--------|
| a) experimental, per year | 20 T | 73 T | 142 T | 174 T | 119 T |
| b) evaluated, per year | 316 T | 1023 T | 821 T | 368 T | 1053 T |
| c) total, per year | 336 T | 1095 T | 963 T | 542 T | 1171 T |

(T = thousand)

11th 4C-Meeting

Brookhaven - March 75

- X-4 backlog -

Attached is a list of works to be compiled in X-4 from the Latin America & East Europe area.

In addition to this list which represents the clearly identified works for compilation, one would have to add about 5 other works of marginal importance for X-4.

CA 7 Feb 75

cc/Joe
Alex
Hans
Jim
Koichi
Pamela

X-4 entries to compile (Latin America + East Europe)

| Laboratories | Quantities | Samples | References | Approximate number of X-4 subentries | Comment |
|--------------|---|---|---|--------------------------------------|------------------------|
| WVA | Neutron capture γ -ray spectra from $E_n = 300$ eV to 1.3 MeV | ^{115}In , Sb, ^{127}I , ^{133}Cs , ^{159}Tb , ^{165}Ho , ^{181}Ta , ^{197}Au , Tl, ^{238}U | APP/B 2 (1971) 489 Brzosko + | 10 | Data not yet requested |
| BKB | Neutron capture γ -ray spectrum, Thermal | ^{167}Er | FIZS 6 (1973) 21 Simic + | 1 | |
| KFI | Neutron capture γ -ray spectrum | ^{155}Gd , ^{163}Dy , ^{177}Hf | KFKI-YB-72, 31 Kardon + | 3 | |
| KFI | Elastic scattering, ang. distrib. at 14.7 MeV | ^{238}U | Acta Phys. Hung.25 (1968)26 Palla + | 1 | Data requested |
| ● | (n, α) reaction, ang. distrib. at 13-18 MeV | ^9Be | Nukleonika 18 (1973) 603 Burzinski + | 2-4 | |
| IBJ | Yields + E-spectra of Li and Be. Thermal fission | ^{235}U | NP/A 127 (1969) 495 Blocki + | 3 | |
| IBJ | Ang. distrib. of polar α -particles. Thermal fission | ^{235}U | NP/A 208 (1973) 381 Blocki + | 1 | |
| IBJ | Ang. distrib. of prompt neutrons. Spontaneous fission | ^{252}Cf | 69 Vienna 892 Piekarz + | 1 | |
| IBJ | Yields + E-spectra of p,d,t, α , ^6He , ^8He . Thermal fission | ^{239}Pu | NP/A 128(1969) 219 Krogulski + | 7 | |
| IBJ | Low energy part of α -spectrum from ternary thermal fission | ^{235}U | App 35 (1969) 187 Chwaszczewska + | 1 | |
| IBJ | Yields + E-spectra of p,d,t, α , ^6He . Thermal fission | ^{235}U | PL/B 25 (1967) 213 Dakowski + | 6 | |
| IBJ | Yields of p,d,t, α , ^6He , ^8He , ^6Li , Be, B, C. Thermal fission | ^{235}U | PL/B 24 (1967) 87 Chwaszczewska + | 1 | |
| IBJ | Yields of p,d. Thermal fission | ^{235}U | 69 Vienna 115 Blocki + | 1 | |
| IBJ | Yields of light nuclei & neutrons. spontaneous fission | ^{252}Cf | 69 Vienna 115 Blocki + | 1 | |
| IBJ | (n,d) ang. distrib. at 14.1 MeV | ^{23}Na , ^{35}Cl , ^{39}K , ^{41}K , ^{89}Y , ^{141}Pa | INDC(POL)-2(1969)3 Dabrowska + | 6 | Data requested |
| BKB | (n, γ) cross-sections + R.I. | Cu, ^{181}Ta | BKN 22, 1 (1971) Markovic + | 4 | Ready to compile |
| SLO | (n,2n) at 14.7 MeV (n,p) | $^{70}\text{Zn}(m)$, $^{76}\text{Ge}(m+g)$, $^{130}\text{Te}(g)$, $^{198}\text{Pt}(m+g)$ $^{128}\text{Te}(m)$ $^{126}\text{Te}(m)$ | Priv. Communication (1974) Hldvac + | 10 | Ready to compile |
| RGS | Differential neutron emission cross-sections at 14.6 MeV | Be, C, Na, Mg, Al, Si, P, S, Ca, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Se, Br, Zr, Nb, Cd, In, Sn, Sb, I, Ta, W, Au, Hg, Pb, Bi, | ZfK-277 (1974) Seeliger + | ~ 19000 data lines | In process |

11 th 4C-Meeting

Brookhaven - March 1975

EXFOR Backlog - Asia, Africa, Down Under

- I. Attached is a list of works for which data to be entered in EXFOR are known to exist or for which there is high probability that data exist.
- II. Accompanying remarks:
 - 1) The number of subentries indicated is an estimate. In some cases it is very rough.
 - 2) Some of the listed works require revision of existing entries.
 - 3) Experiments still in progress are not listed.
 - 4) Known measurements of fission systematics are not listed even though such data can now be entered in EXFOR. Uncompiled data in this category, especially from India and Israel, are known.
 - 5) The Proceeding of the annual all India Conferences on Nuclear and Solid State Physics have not been scanned systematically for data which have not been reported elsewhere.
 - 6) Many entries (not listed) are known to require revision or minor corrections. Proof copies must be sent to authors.

cc/J.J. Schmidt
A. Lorenz
H.D. Lemmel
A. Calamand
K. Okamoto
P. Attree

| LAH | Quantity/Measurement | Nuclei | Reference | No. SE | Comments |
|---------------------|--|---|---|--------|--|
| <u>Australia</u> | | | | | |
| AUA | Prompt NU | Pu-240, 2 Cm-248 U-233 Cf-252 | 73 Kiev NSR 55,188(1974) for Cf | 4 | probably revise existing entries |
| AUA | RES, NG, STF | Ba-134-8 Ca-40, 42-4 | 73 Kiev | - | May not be experimental data |
| AUA | NG, RES: Resonance parameters and relative partial capture cross sections. | Ti-48, Fe-56 Ni-58 | AAEC/E-302 | 7 | Res. param. given in ref.; partial sigmas to be requested. |
| AUA | Prompt NU; energy dependence below 2 MeV | Pu-239 | ANE 1, 353 (1974) Walsh + | 1 | revise existing entry, data from reference |
| AUA | Neutron emission from fission fragments | Cf-252 | INDC(SEC)-35 AAEC/PR 39-P | - | to be requested |
| <u>Bangladesh</u> | | | | | |
| DAC | DNG: Relative gamma spectra | Ho-165, Y-89 | NSP/B 6 32(1973) | 3 | to be requested |
| RAM | TOT, 16-18 MeV | Dy, Hg | INDC(SEC)-42 2 | 3 | to be requested |
| <u>Egypt</u> | | | | | |
| CAI | Epicadmium Resonance Integral | Lu-175,6 | AREA EE-165 | 7 | data in reference |
| <u>India</u> | | | | | |
| AUW | (n, γ), isomeric ratios at 25 KeV | Ge-74, Br-79, Se-80, Rb-85, Rh-103, Sb-121, Eu-151, Dy-164 | PR/C 6 572 (1972) | 9 | data in reference |
| MUA | Ratio $\sigma(n,\alpha)/\sigma(n,\gamma)$, thermal | Lu-178 | NP/A 235, 307 (1974) | 3 | data from journal |
| MUA | NA thermal | Hf-180, Tl-203, Pb-208, Bi | INDC(SEC)-35 | 5 | no data given |
| MUA | Ratio $\sigma(n,\alpha)/\sigma(n,\gamma)$, thermal | Hf-180, Tl-203, Pb-208, Bi-209 | INDC(SEC)-42 81 | 5 | data in reference |
| SAH | NP at 14.7 MeV | Ti, V, Zn, Mo, Sr, Te | INDC(SEC)-35 | 7 | to be requested |
| TAT | NA, estimate only | Pt-201 | NC 30 14 (1963) | 2 | data in journal |
| TRM | NA, RES | Si-32 | INDC(SEC)-42 57; BARC-768 Balakrishnan + To be published PR/C 12/74 | 2 | inverse reaction no data in BARC-768 |
| TRM | N2N at 14.6 MeV | K-39, N-14 | INDC(SEC)-35 | 3 | data in reference |
| - | Fission Yields of Lu-177, Yb-175, Er-172, Cu-67, Ni-66 | - | 72 Bombay B 53 | - | - |
| <u>Iraq</u> | | | | | |
| NRI | (n,n' γ) relative intensities of inelastic gammas | W-182 | NP/A 237, 125 (1975) Demidov + | 2 | data from reference |
| <u>Israel</u> | | | | | |
| HFA | Inelastic gamma spectrum | Tb-159 | PR/C 8 1929 (1973) | 2 | relative intensities |
| <u>New Zealand</u> | | | | | |
| NZW | NA, NP absolute, En=2.4-2.9 MeV | K-39, Ca-40 | NP/A 220, 395 (1974) | 5 | data in reference |
| <u>Pakistan</u> | | | | | |
| LAH | Absolute activation sigma for En = 14.7 MeV | I-125,6,8 Te-127,m Sb-124,m | JIN 30, 2577 (1968) | 8 | data from reference |
| LAH | Total, En=1.7 - 14.7 MeV | C-12, Al-27 U-238 | NIM 115 345 (1974) INDC(SEC)-42 | 4 | - |
| LAH | NA at 14 MeV | Ni-58 | NP/A 202 123(1973) INDC(SEC)-42 | 2 | - |
| LAH | Capture Gamma Spectra (Thermal) | Nd-142,4 | INDC(SEC)-42 186 | 3 | to be requested |
| LAH | Prompt capture gammas | N-14 | INDC(SEC)-42 186 | 2 | to be requested |
| <u>South Africa</u> | | | | | |
| PEL SUN | N2N, 8-22 MeV | D | INDC(SEC)-35 + 42 | - | to be requested |
| PEL | elastic and inelastic | Mn-55, Ho-165 | INDC(SEC)-35 EP 257, 137 (1972) Barnard + | 10 | to be requested |
| SUN | Inelastic cross section and γ -spectra | Th-232 | INDC(SEC)-42 248 | - | experiments partially completed |