<u>$^{103}$Rh(t,p)</u>    **1977An01**

History

| Type | Author | Citation | Literature Cutoff Date |
|------|--------|----------|------------------------|
| Full Evaluation | S. Lalkovski, J. Timar and Z. Elekes | NDS 161, 1 (2019) | 1-Apr-2019 |

Facility: Los Alamos FN Tandem; Beam: E(t)=17 MeV; Target: 160 $\mu$g/cm$^2$ enriched in $^{103}$Rh on 20 $\mu$g/cm$^2$ carbon backing;
Detectors: Q3E magnetic spectrometer, position-sensitive proportional coundter, FWHM=10-15 keV; Measured: dE/dx, d$\sigma$/d$\Omega$;
Deduced: $^{105}$Rh levels, L from d$\sigma$/d$\Omega$ and DWBA analysis.

$^{105}$Rh Levels

| E(level)[†] | L[‡] | S[#] | Comments |
|-------------|------|------|----------|
| 0    |       |       | E(level): from the Adopted Levels. Not reported in 1977An01. |
| 130  | 0     | 2.27  | |
| 392  | 2     | 0.10  | |
| 456  | 2     | 0.131 | |
| 762  | (2)   | 0.005 | |
| 833  |       |       | |
| 868  | 2     | 0.029 | |
| 896  | 4     | 0.007 | |
| 976  | 4     | 0.009 | |
| 1147 | 2     | 0.050 | |
| 1215 | 2     | 0.021 | |
| 1297 | 0     | 0.151 | |
| 1351 | 2     | 0.033 | |
| 1463 | 2     | 0.022 | |
| 1649 | 2     | 0.008 | |
| 1690 | (4)   | 0.012 | |
| 1758 | 4     | 0.005 | |
| 1825 | (3,4) |       | If this level is identical with 1829-keV level observed in $^{105}$Ru $\beta^-$ decay with adopted $J^{\pi}$=(5/2,3/2$^+$) then L=4 is excluded. |
| 1849 | 2     | 0.018 | |
| 1887 | 2     | 0.015 | |
| 1904 | (2)   |       | |
| 1936 | 4     | 0.009 | |
| 2005 | 2,3   |       | |
| 2033 | 4     | 0.040 | |
| 2061 | (4)   | 0.009 | |
| 2083 | (4)   | 0.008 | |
| 2109 | (2)   | 0.031 | |
| 2137 | (4)   | 0.009 | |
| 2160 | (2)   | 0.011 | |

† From 1977An01. The uncertainties range from about 2 keV for the low-lying states to about 10 keV for the high-energy levels.
‡ From comparison of experimental and DWBA angular distributions.
# (d$\sigma$/d$\Omega$)$_{exp}$= N$\varepsilon$(d$\sigma$/d$\Omega$)$_{DWBA}$, where N=218 and $\varepsilon$ is enhancement factor in the range from 0.005 to 2.27, depending on the state. $\varepsilon$ takes into account deviations from two-nucleon overlap ranging.