

**REPORT TO THE NEANSC WORKING PARTY ON INTERNATIONAL EVALUATION
COOPERATION FOR THE MAY, 1994 MEETING IN OAK RIDGE****Subgroup 11: Inter-comparison of the Resonance Region of ^{52}Cr , ^{56}Fe and ^{60}Ni**

Monitor: D. Larson, ORNL
Coordinator: Volunteer??

Membership: F. Frochac, KfK
H. Vonach, IRK
S. Tagesen, IRK
T. Asami, JAERI
Y. Nakajima, JAERI
N. Larson, ORNL
H. Weigmann, IRMM

Status: At the June, 1993 meeting in Aix-en-Provence, an analysis of the resonance parameters from the JEF-2, EFF-2, JENDL-3, BROND and ENDF/B-VI was presented. The largest problems were with ^{52}Cr , for which a new resonance parameter analysis is required. No new work on this problem has been reported. For iron, new high resolution transmission data through several sample thicknesses from IRMM is available and being analyzed for resonance parameters. For the nickel isotopes, a detailed comparison of new IRMM resonance parameters with ENDF/B-VI is underway, and will extend the resolved resonance range for ^{60}Ni . The SAMMY R-matrix code is now able to analyze differential elastic scattering data, and is in final stages of testing the multiple scattering correction for analysis of capture data.

Just above the analyzed resonances of $^{56}\text{Fe}+n$ a comparison between the new high-resolution total cross section data from Geel and those from ORNL revealed a systematic difference of several percent, the Geel cross sections being higher than both the ^{56}Fe (ENDF/B-VI) and the Fe (JEF-2.2) data from ORNL. Only above 1.0 - 1.1 MeV is the difference as small as expected for state-of-the-art transmission measurements and from the Optical Model. It must be expected that similar differences extend downwards into the resolved resonance range. Their causes should therefore be clarified.