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**NEUTRONS AND ANTIMONY  
PHYSICAL MEASUREMENTS AND INTERPRETATIONS\***

by

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**ABSTRACT**

New experimental information for the elastic and inelastic scattering of  $\approx 4 \rightarrow 10$  MeV neutrons from elemental antimony is presented. The differential measurements are made at  $\approx 40$  or more scattering angles and at incident neutron-energy intervals of  $\approx 0.5$  MeV. The present experimental results, those previously reported from this laboratory and as found in the literature are comprehensively interpreted using spherical optical-statistical and dispersive-optical models. Direct vibrational processes via core-excitation, isospin and shell effects are discussed. Antimony models for applications are proposed and compared with "global" "regional" and "specific" models reported in the literature.

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