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## STUDY OF COLLECTIVE EXCITATIONS IN THE GERMANIUM REGION BY ELECTRON SCATTERING

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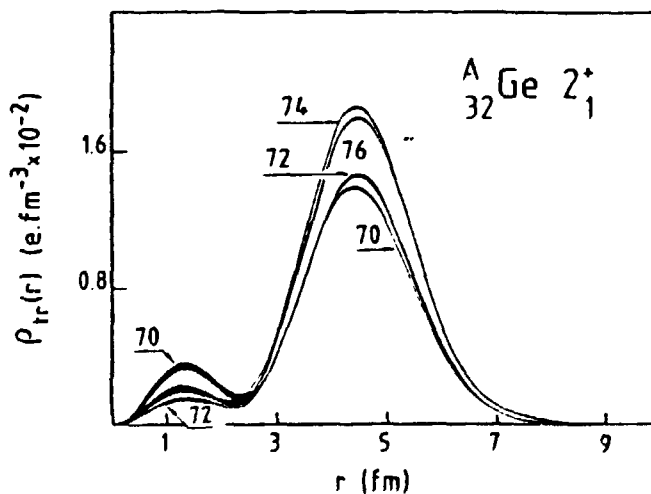
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A coherent description of transitional nuclei is a very challenging problem for nuclear theory. In order to test the recent theoretical advances, one needs now systematic measurements of transition charge densities.

We are currently investigating at Saclay collective excitations in three transition regions (germanium, samarium and osmium-platinum). We have completed recently the study of four even isotopes of germanium (<sup>70,72,74,76</sup>Ge) by high resolution inelastic electron scattering. Angular distributions of scattered

electrons have been measured at incident energies of 200, 300 and 500 MeV, spanning a range of momentum transfer between 0.7 and 2.9 fm<sup>-1</sup>. These measurements have been extended to 0.3 fm<sup>-1</sup> at Mainz University.<sup>1</sup> Cross sections have been extracted for the 0<sup>+</sup> ground states and for the 2<sub>1</sub><sup>+</sup>, 2<sub>2</sub><sup>+</sup>, 4<sub>1</sub><sup>+</sup>, 4<sub>2</sub><sup>+</sup> and 3<sup>-</sup> excited states.

A DWBA analysis was used to determine the transition charge densities of these states. The figure shows the preliminary results for the first excited 2<sup>+</sup> state in the four isotopes. The theoretical interpretation of these results is in progress.



## Reference

1. G. Mallot et al., to be published.