

Figure 2. The total energy ( $E_1 + E_2$ ), the energy width (FWHM) and the inferred mass width (Fig. 1) for 190 MeV proton-induced fission.

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A STUDY OF THE DECAYS OF  $^{194,195,196}\text{Pb}$

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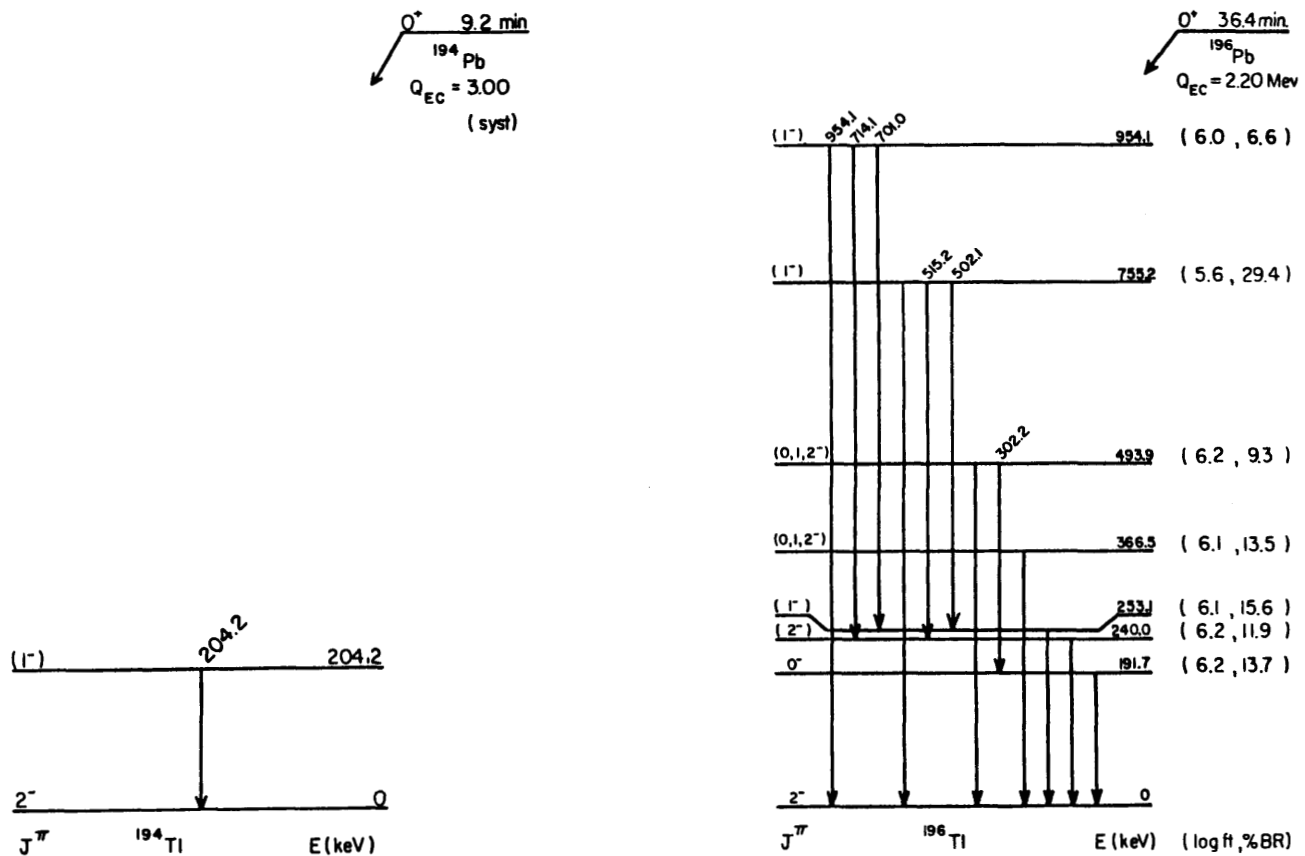
Decay properties of  $^{194,195,196}\text{Pb}$  have been studied using singles and coincident  $\gamma$ -ray spectroscopy. Sources were produced by the 95 MeV  $^{197}\text{Au}(^6\text{Li}, \text{xn})$  reactions. No direct evidence for the decay of a low-spin isomer of  $^{195}\text{Pb}$  was observed. Several new levels were observed in  $^{195,196}\text{Tl}$ , and are interpreted in terms of a rotational model. The low-lying states of the odd Tl nuclei are especially interesting in view of their proposed<sup>1,2</sup> oblate deformation. States of fairly high spin in these nuclei can be studied by observing the  $\gamma$ -rays following

the  $\beta/\text{EC}$  decay of the isomeric  $13/2^+$  levels<sup>3</sup> of the odd Pb nuclei.

The decay of the  $13/2^+$  isomer in  $^{195}\text{Pb}$  has been investigated by several groups.<sup>1,2,4,5</sup> High-spin states of  $^{195}\text{Tl}$  have also been studied using in-beam  $\gamma$ -ray spectroscopy.<sup>1,2</sup> These studies are summarized in a recent compilation,<sup>6,7</sup> which includes a preliminary report of the decay of  $^{195}\text{Pb}$ . Levels in  $^{194,196}\text{Tl}$  populated by  $^{194,196}\text{Pb}$  decay have been known for some time.

The present study is an extension of our previous





Figures 2(a) and 2(b). Decay schemes of  $^{194}\text{Pb}$ (9.2m) and  $^{196}\text{Pb}$ (36.4m).

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