In the region of 152-158 neutrons we find the neutron levels[1] shown in Fig. 5. At 153, 155, and 157 neutrons, i.e. in ^{254}Md, ^{256}Md, and ^{258}Md, we would expect that the lowest lying neutron levels would be the $\frac{1}{2}$ + [620], $\frac{7}{2}$ + [613] and $\frac{9}{2}$ + [615] levels successively. Therefore, we would expect that these would add to the $\frac{7}{2}$ - [514] proton level to form the Σ=0 and Σ=1 bands shown in Fig. 6.

In Fig. 6 we see that ^{254}Md should have two isomers, Σ=1, $\Omega\pi$=3- and Σ=0, $\Omega\pi$=4-. Both of these should decay by electron capture rather than alpha emission, and indeed there are two known isomers of ^{254}Md which decay by electron capture with half-lives of 10 minutes and 20 minutes.

We note that for 157 neutrons, i.e. in ^{258}Md, the lowest lying neutron species is the $\frac{9}{2}$ + [615] which should form the Σ=1, $\Omega\pi$=8- and Σ=0, $\Omega\pi$=1- pair. The 8- isomer is the species found by Ahmad et al.[2] which decays by alpha emission and has a half-life of 57 days. The 1- isomer is the species, recently found by the Los Alamos group, that decays by electron capture and has a half-life of 60 minutes.

In the case of ^{256}Md (155 neutrons) the $\frac{7}{2}$ + [613] neutron adds to the $\frac{7}{2}$ - [514] proton and we would expect to have a Σ=1, $\Omega\pi$=0- and Σ=0, $\Omega\pi$=7- isomeric pair. The Σ=1 band is known and its alpha decay (10%) was characterized by Ahmad et al. as seen in Fig. 7. It is seen in the figure that the unhindered alpha decay proceeds to a $\Omega\pi$=0- pair band in ^{252}Es as would be predicted by this assignment. To date, the Σ=0, $\Omega\pi$=7- isomer has not been discovered. However, it should exist and should have an alpha decay half-life of at least several days. As we have seen, the decay characteristics of the Md isotopes can be readily related to the ≈300 KeV energy gap in the single particle