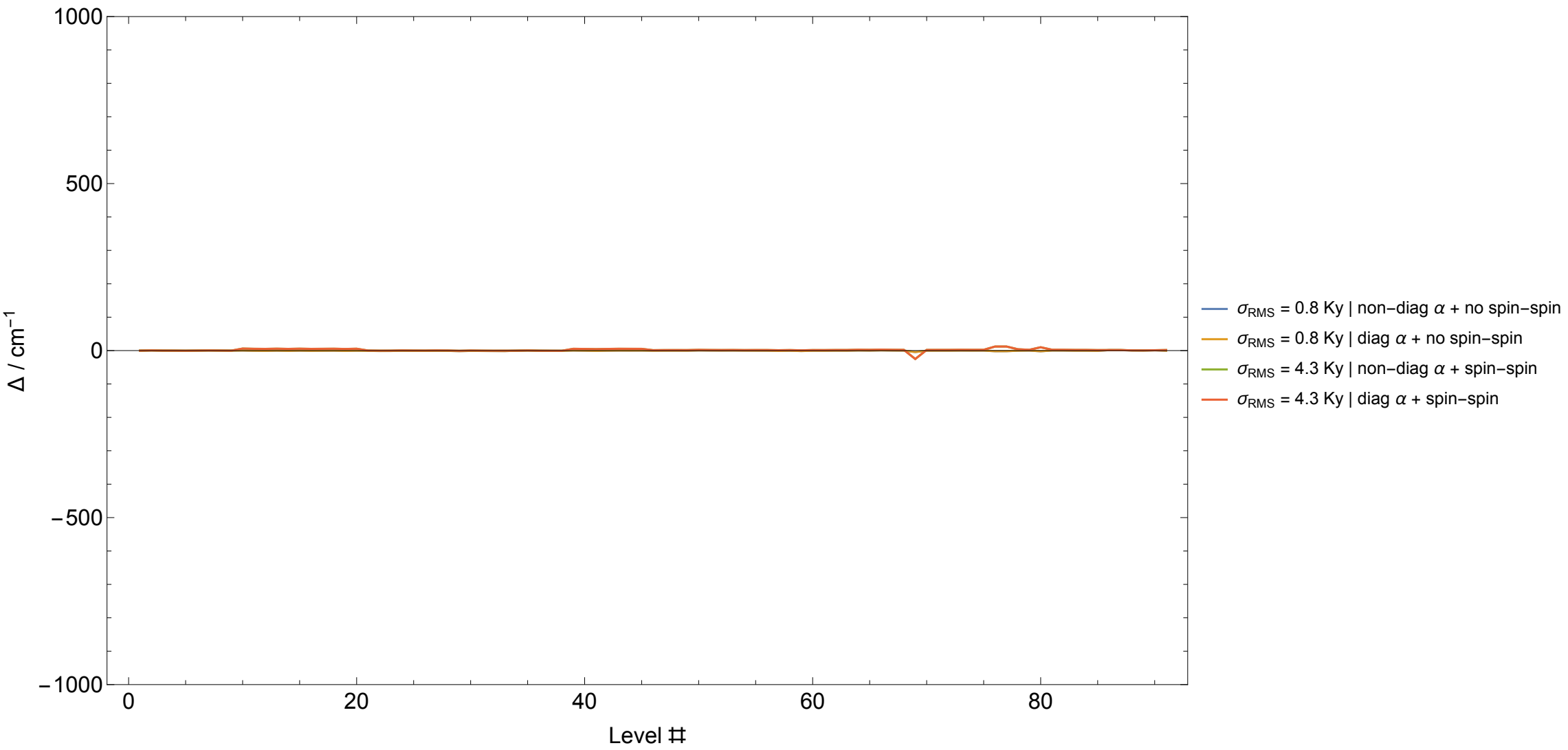
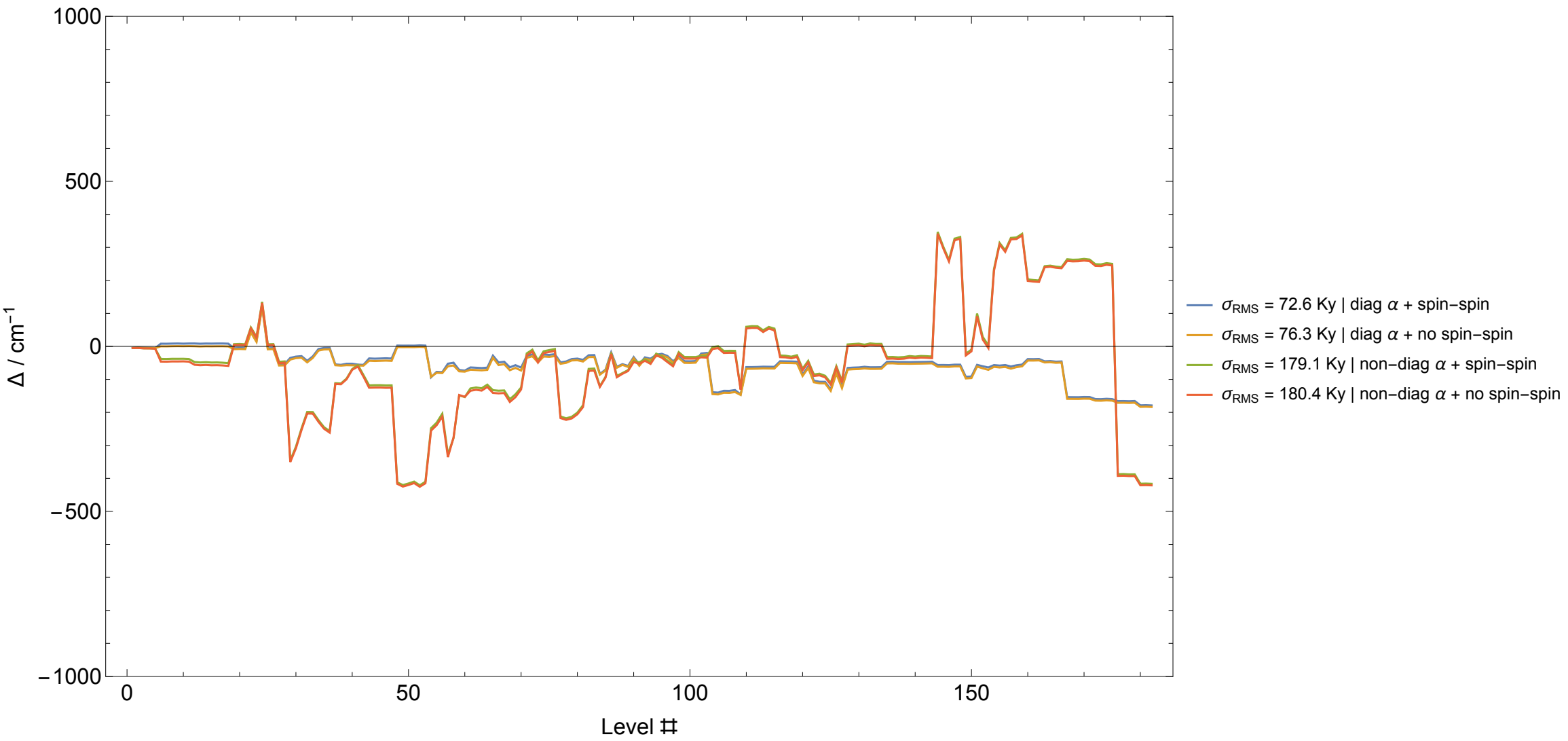


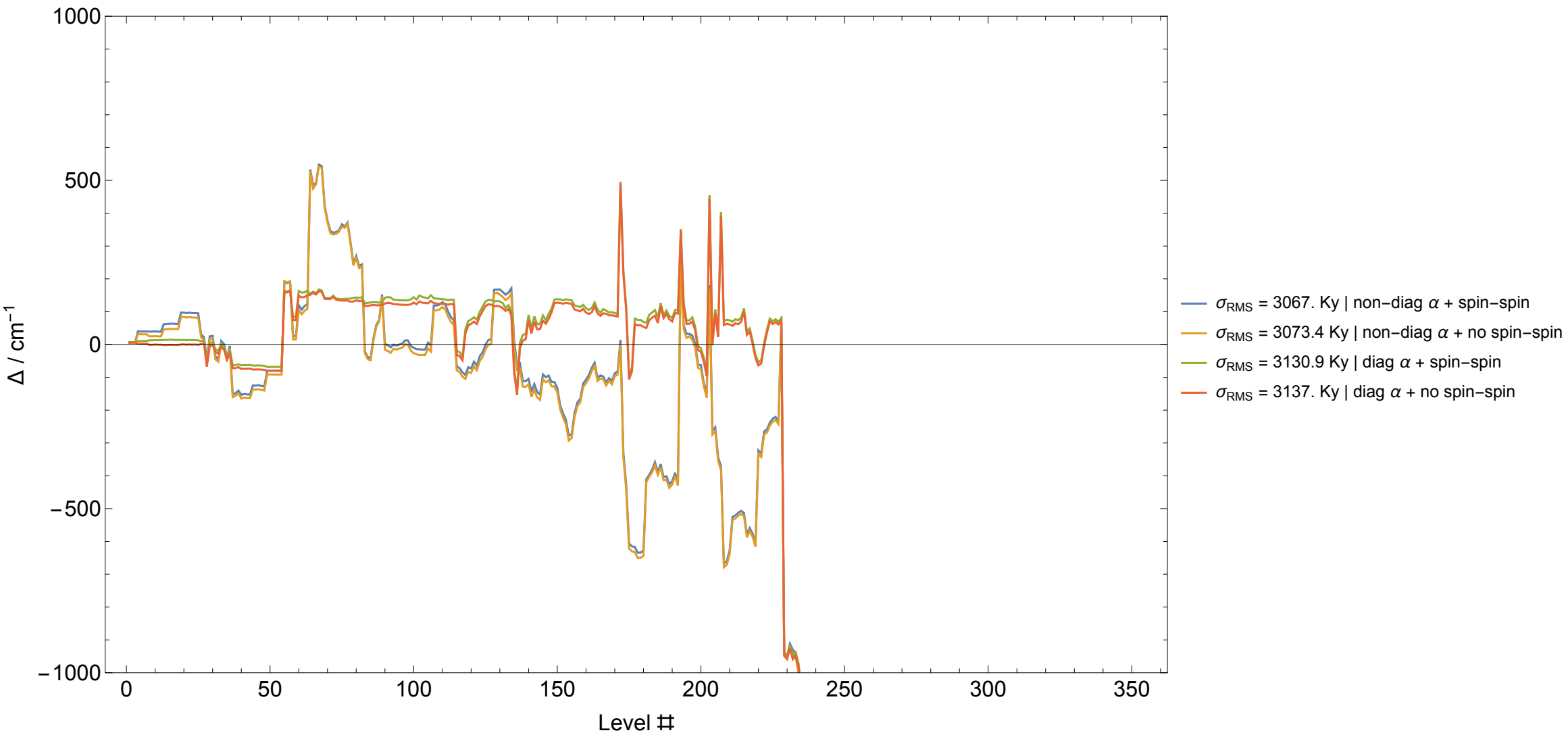
Pr<sup>3+</sup>



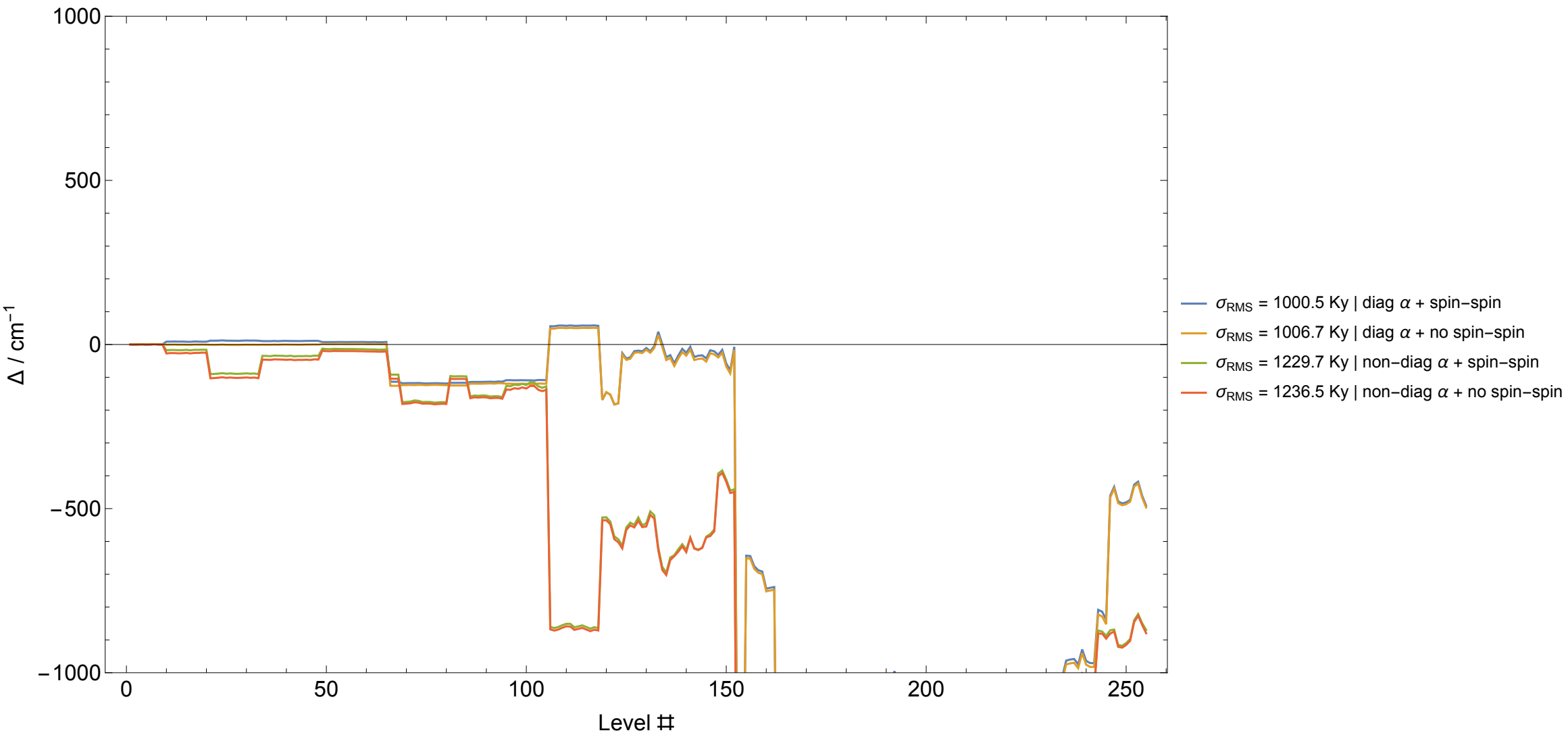
Nd<sup>3+</sup>



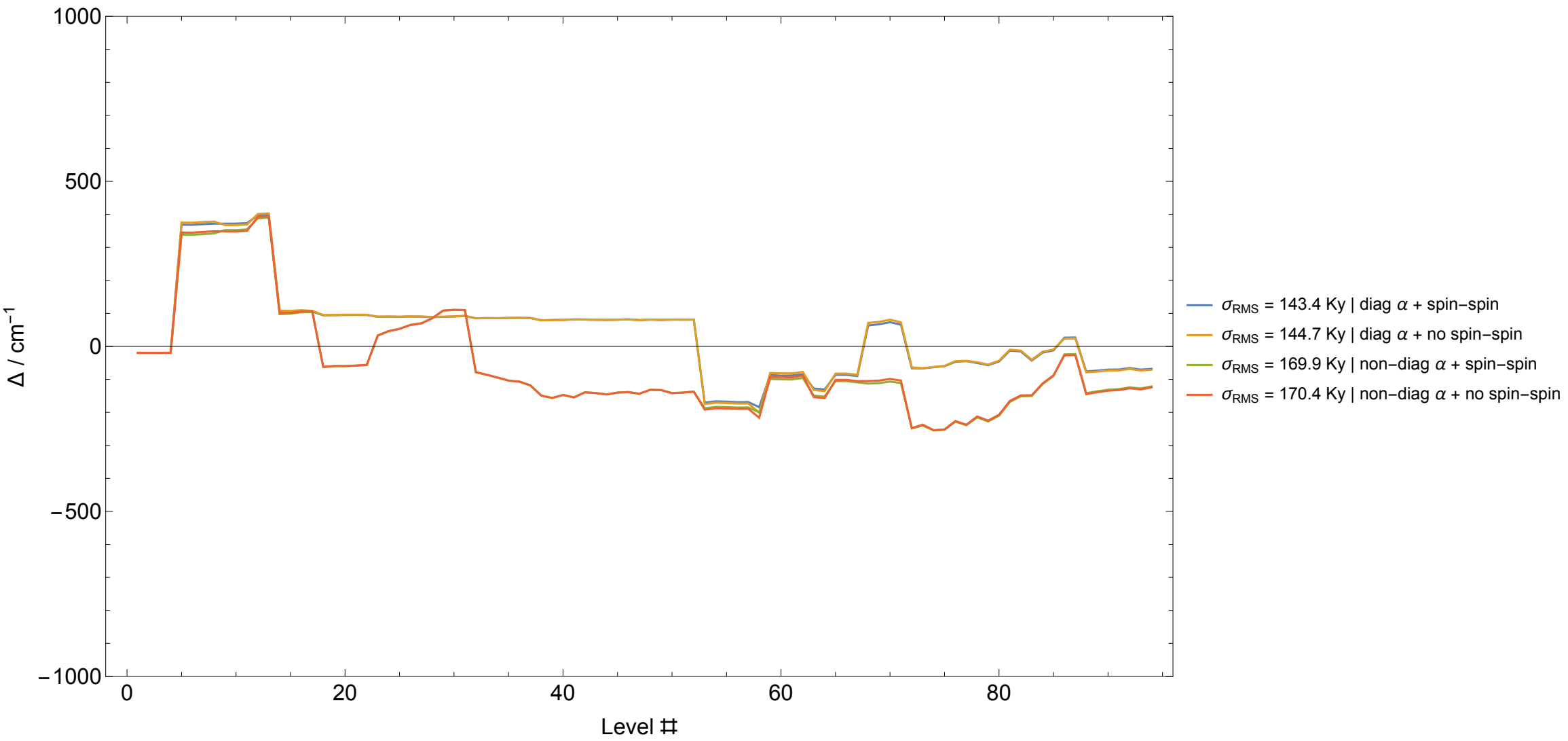
Sm<sup>3+</sup>



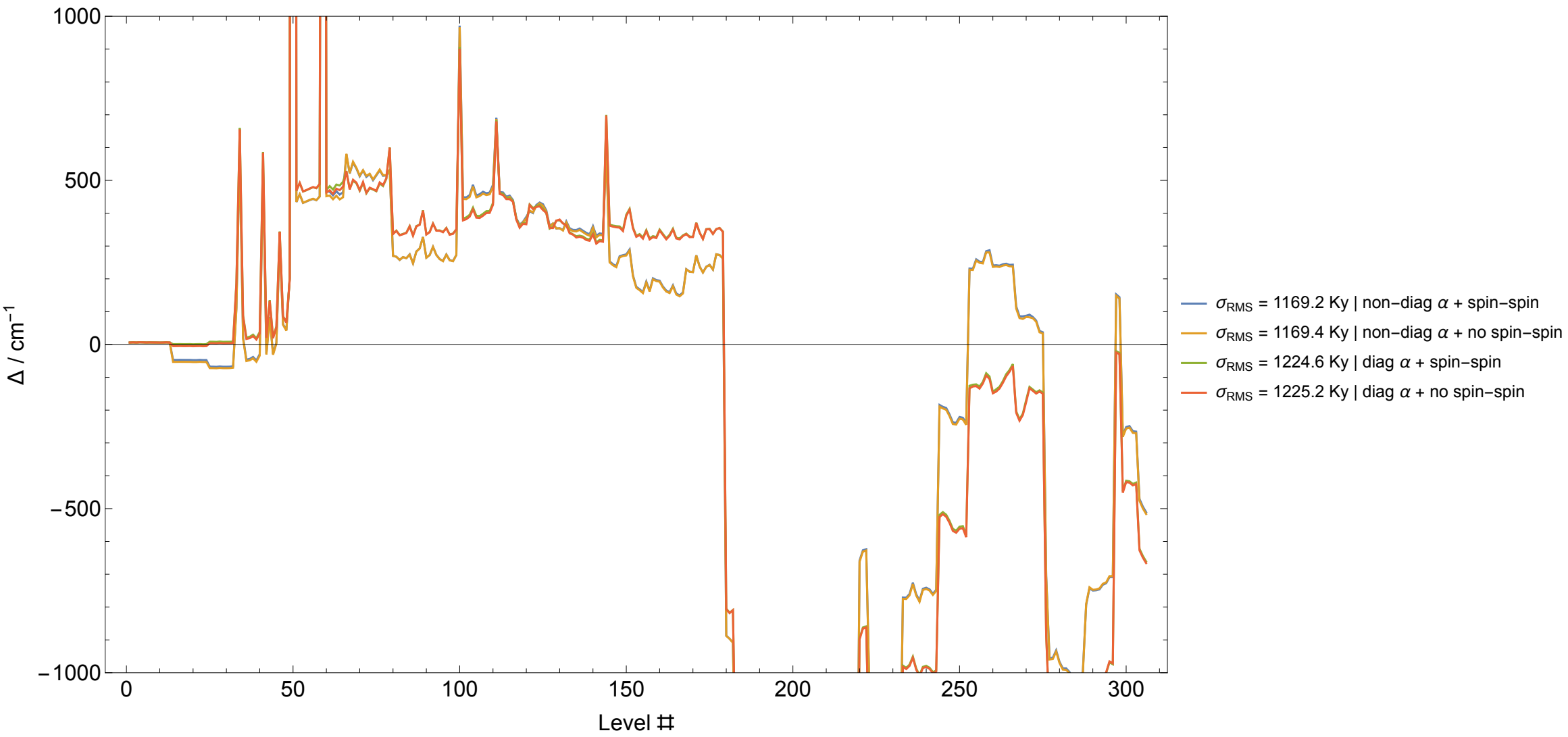
Pm<sup>3+</sup>



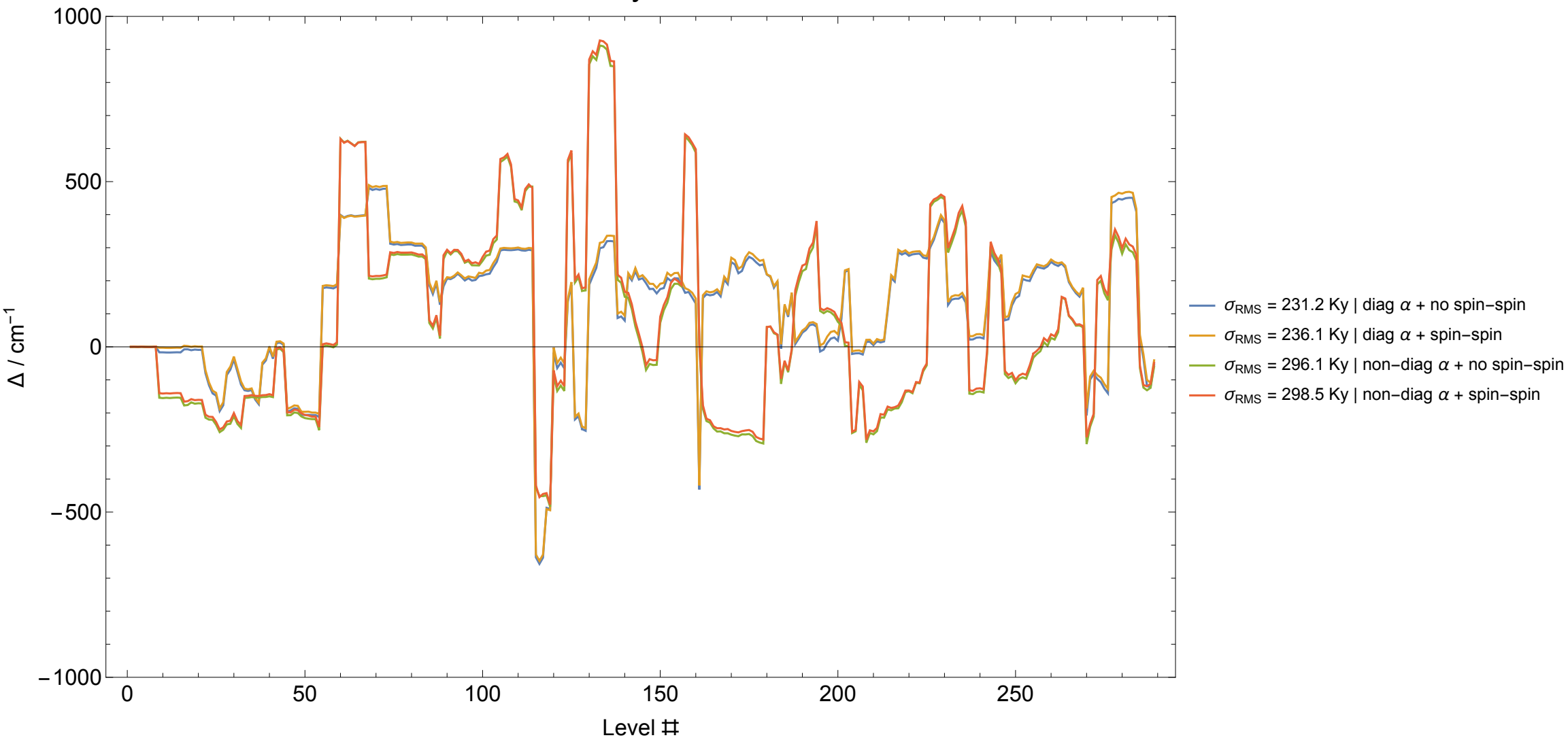
Gd<sup>3+</sup>



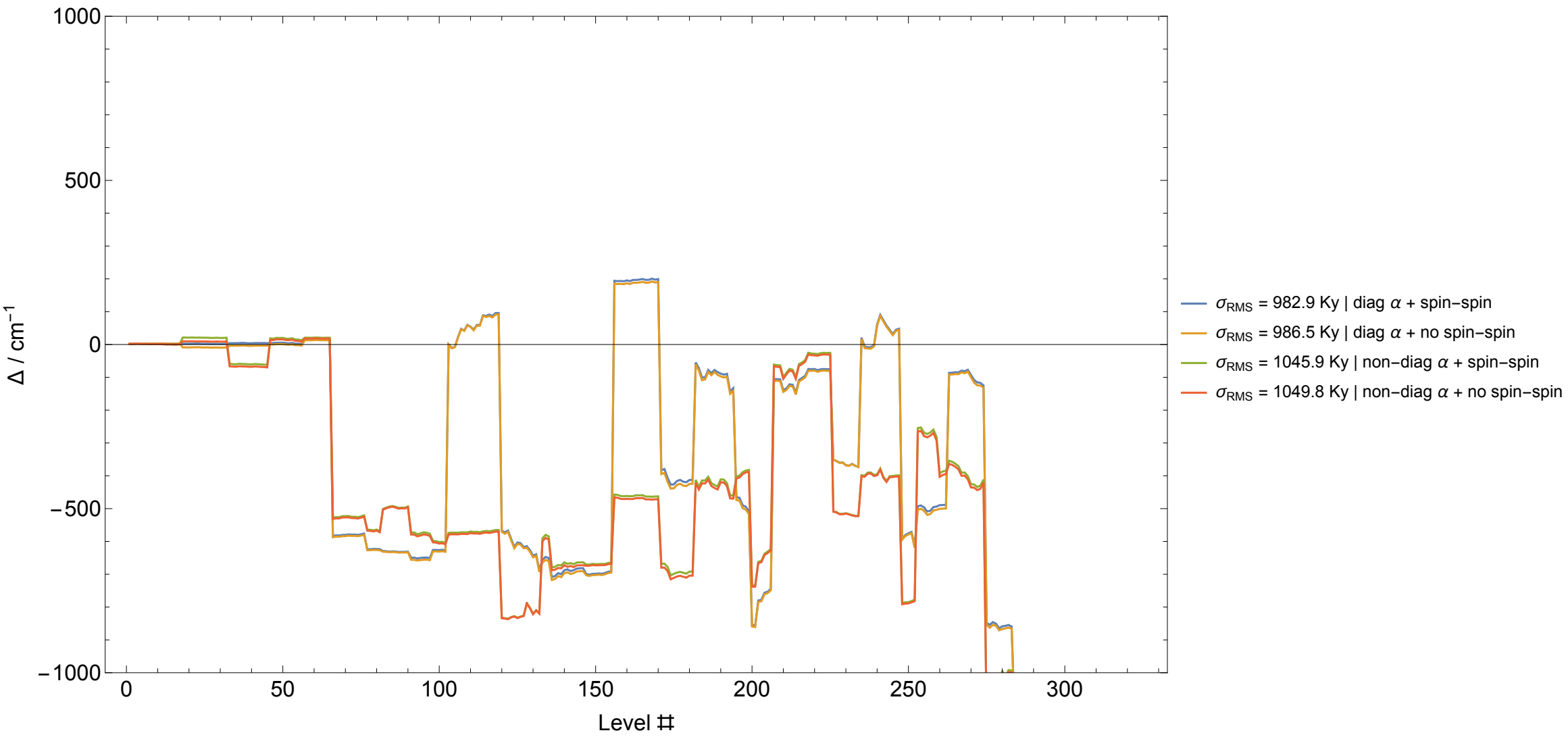
Tb<sup>3+</sup>



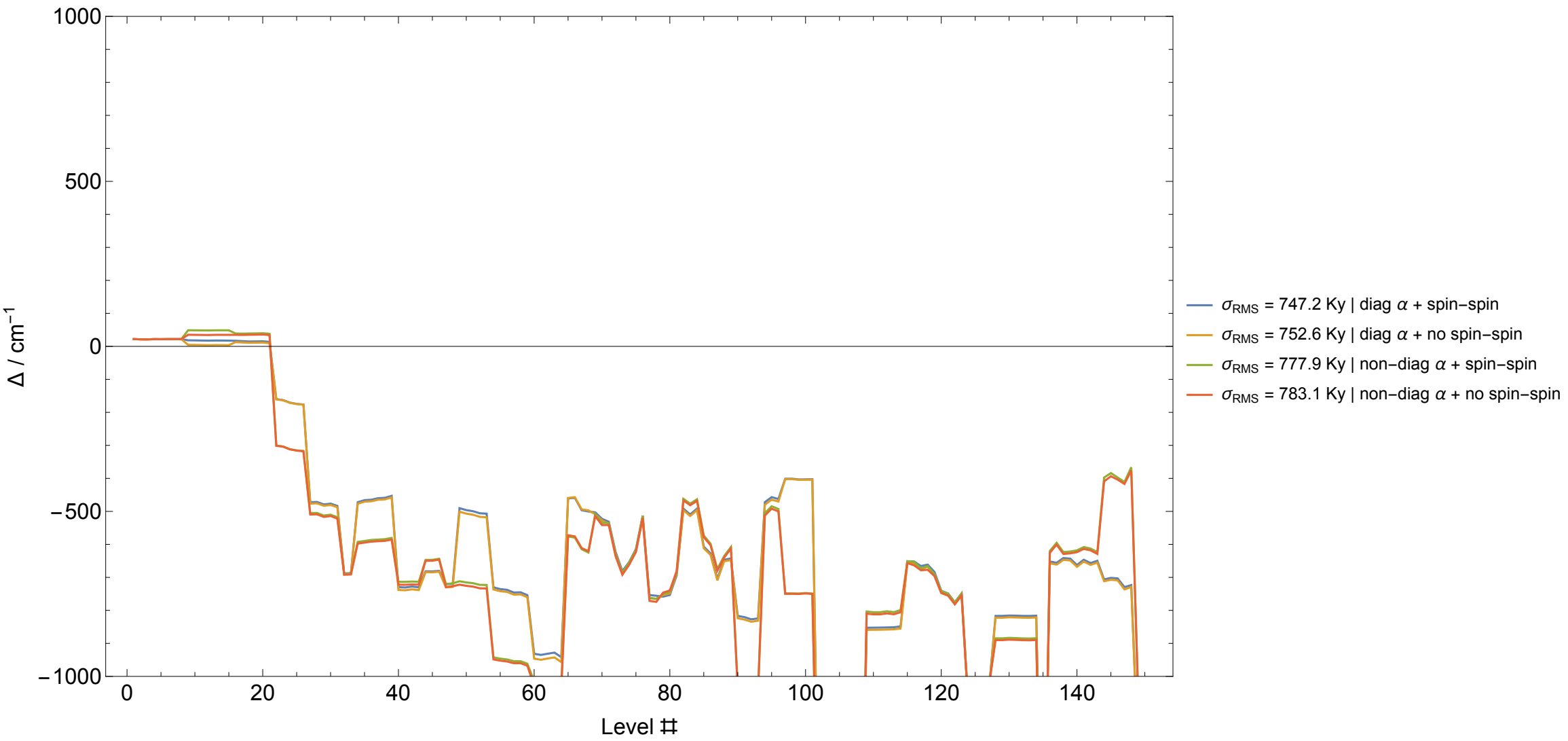
Dy<sup>3+</sup>



Ho<sup>3+</sup>





$\text{Er}^{3+}$ 

Tm<sup>3+</sup>

$\Delta / \text{cm}^{-1}$

