Most publicly available mass absorption coefficients tables do not comprise accuracy data and are often created from relatively old sources. The idea of comparing tables is not new (De Boer), but current software tools make it possible to quickly develop interactive software to analyze the discrepancies in finer detail and get hints to the reason for the difference. Such a tool has been created and used to compare six public domain databases. Several reasons for sizeable discrepancies have been identified, ranging from probable typos to misplaced or missing absorption edges. In addition to the discrepancies that can reasonably be pigeonholed huge differences exist for all elements below 1000eV and for light elements above 10,000 to 20,000eV depending upon the element.

Because there are many cases where reliable standards are scarce or inexistent the development of a better, consistent MAC table especially in the low energy and low Z regions, and with reliable error bars is a requirement for further development of XRF methods in many advanced fields such as waste management, user safety (RoHS), renewable energy sources and many more. The international initiative for improved FP which involves several industrial and academic organization aims to address the issue as a whole, i.e. not only for MAC.

Creating such a complete database requires considerable resources; the comparison tool may alleviate the effort in the MAC field by readily showing which energy regions and elements deserve more attention.