Subject: Re: AGATA particle-gamma time
Posted by miree on Fri, 12 Sep 2014 09:50:54 GMT
View Forum Message <> Reply to Message

Hi Tayfun,

I have the following thoughts when I see this spectrum:

It seems that you have a correlation between energy and time.

My first impression regarding the asymmetric lines is, that they are supposed be on top (and not below) the "prompt flash" (i.e. the long horizontal line, indicating the particle impact). Maybe your time axis is reversed (i.e. later times are smaller numbers).

Second impression: Is one of the lines the 1461 keV 40K line? That would have to be perfectly symmetric, indeed! But I also think this should be much weaker. Perhaps you have some beam-induced background line that is at the same energy.

You seem to have very little neutron induced Ge(n,n' gamma)Ge background lines.
These are typically at energies: 585 keV, 563 keV, 595 keV, 689 keV, 1039 keV, 1368 keV
Your beam was 58Ni, and your projectile was 52Fe. It seems that more neturons come with heavier beams.

Perhaps you can make a time-gate before the promt flash [430 to 550] and try to identify the common Background lines (at least the 1461keV 40K should be there) in the projection.

Another question: What was your S4 particle rate (ions/sec)? Perhaps the strange-looking MH-TDC raw spectra are just showing additional particles in your event. You can also check the multiplicity in your MH-TDC modules (in particular the Sci41 multiplicity). Perhaps you have lots of events with two or more particles?

Best regards,
Michael