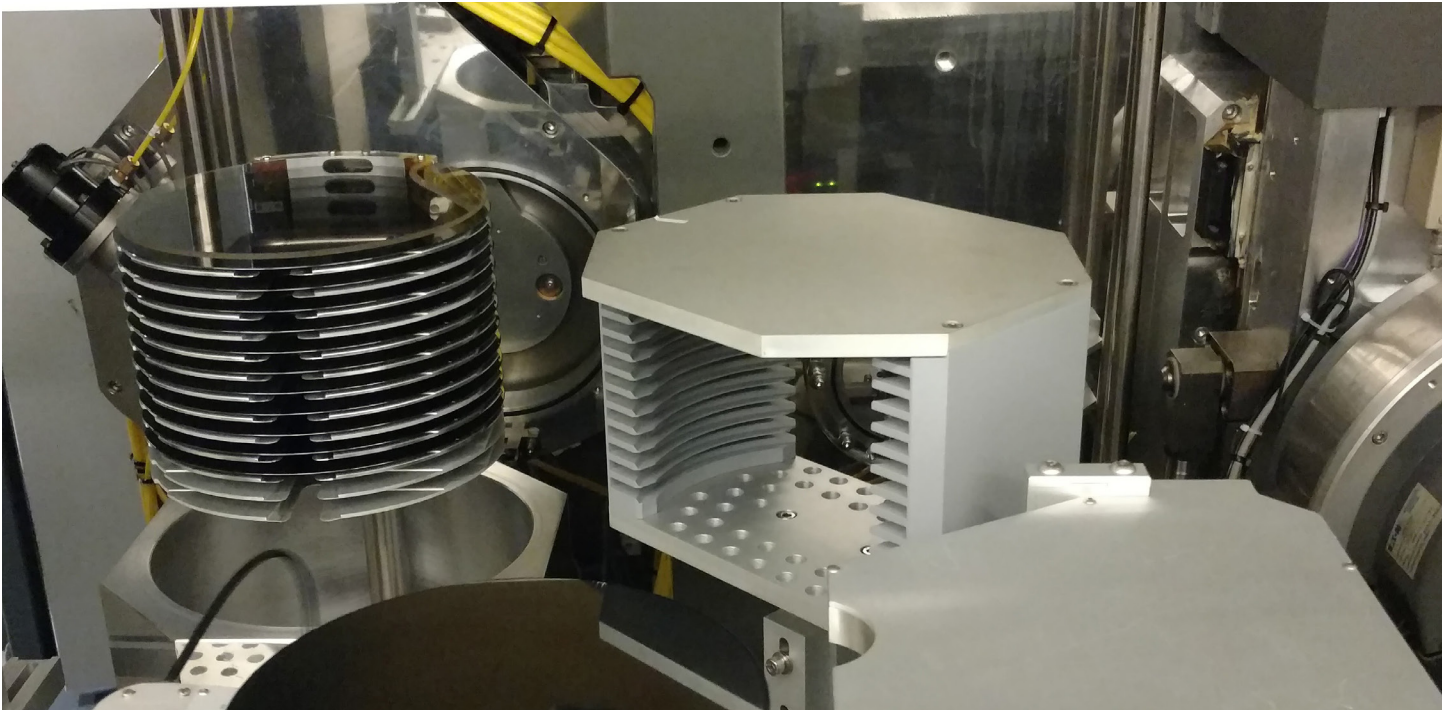


PROJECTED RANGE STATISTICS

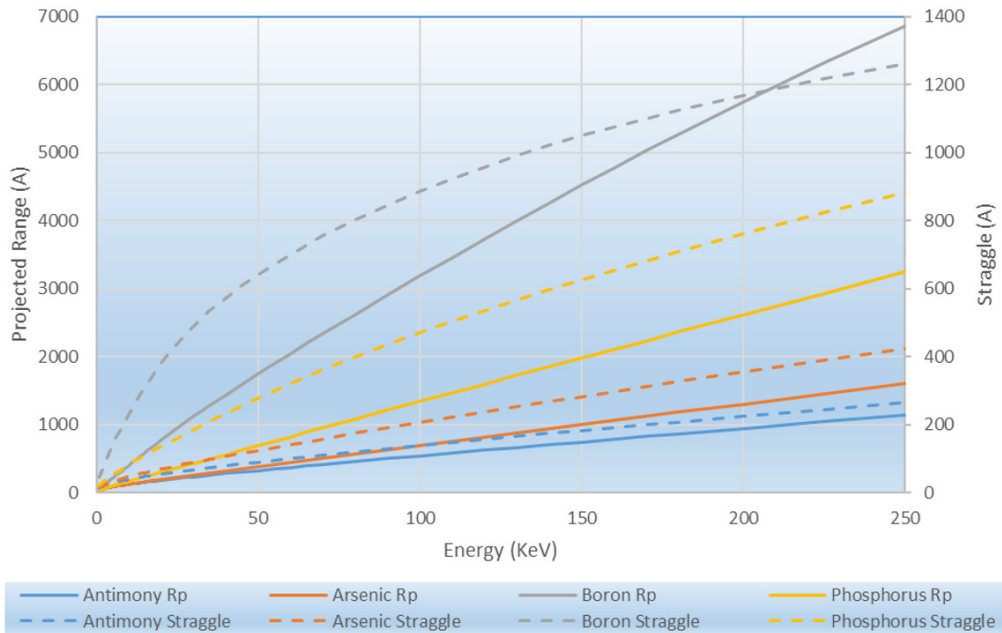
Flexibility. Expertise. Speed.
Everything you need at one implant foundry.



- The following graphs are based on tables generated by SRIM 2013
- SRIM is a software package originally written at IBM Research under the direction of J. F. Ziegler and J. P. Biersack
- It is currently available at no cost for noncommercial use at www.SRIM.org
- The graphs are provided for use by any and all ion implant users
- The graphs provide Projected Range (R_p) and Straggle (ΔR_p) for
 - Antimony
 - Arsenic
 - Boron
 - Phosphorus
- There are 4 sets of graphs for the following implant target materials
 - Silicon
 - Silicon Dioxide
 - Silicon Nitride
 - Resist (AZ 111)
- Each set of graphs consist of 2, one for singly charge ions and one for multiply charge ions
- In addition, there is a set of graphs recommending a minimum resist thickness
- The recommendations are based on $R_p + 5 * \Delta R_p$.
- Thicker resist may be needed for high doses that cause resist shrinkage

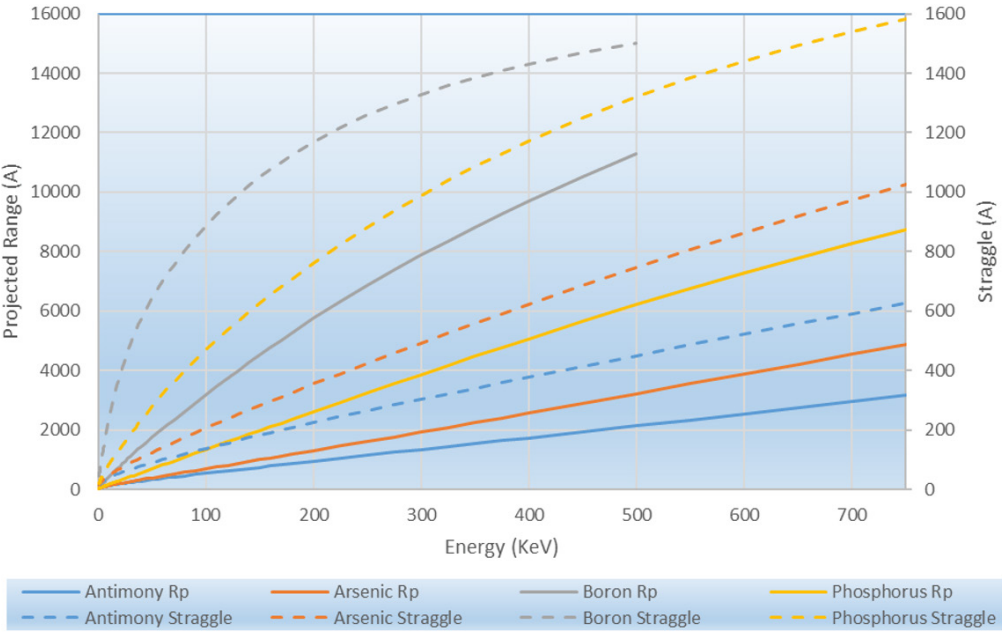
PROJECTED RANGE STATISTICS

Projected Range Statistics into Silicon
ref SRIM 2013



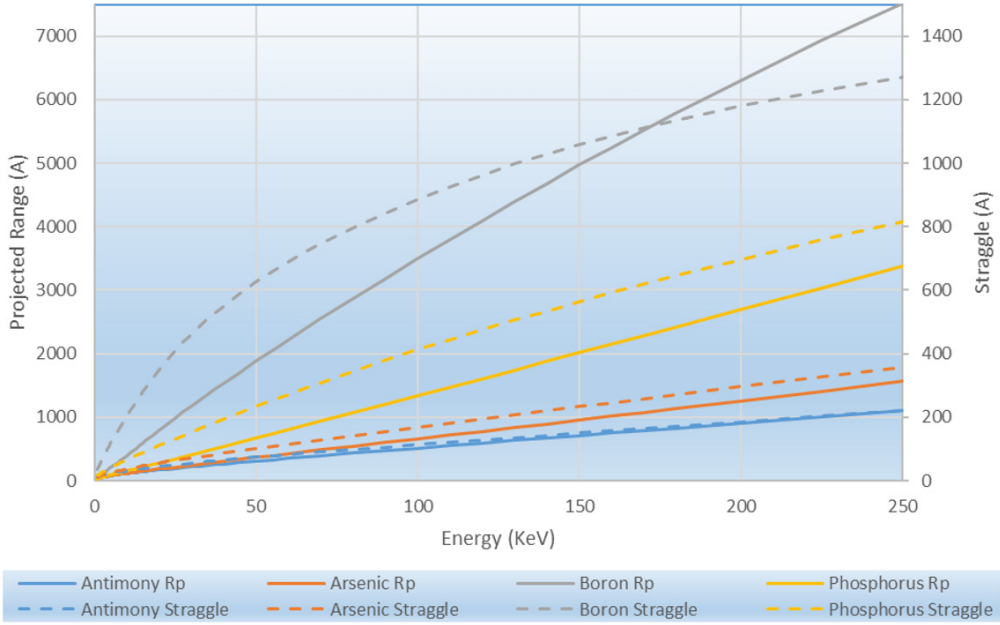
- Based on SRIM 2013 generated tables

Projected Range Statistics into Silicon
ref SRIM 2013



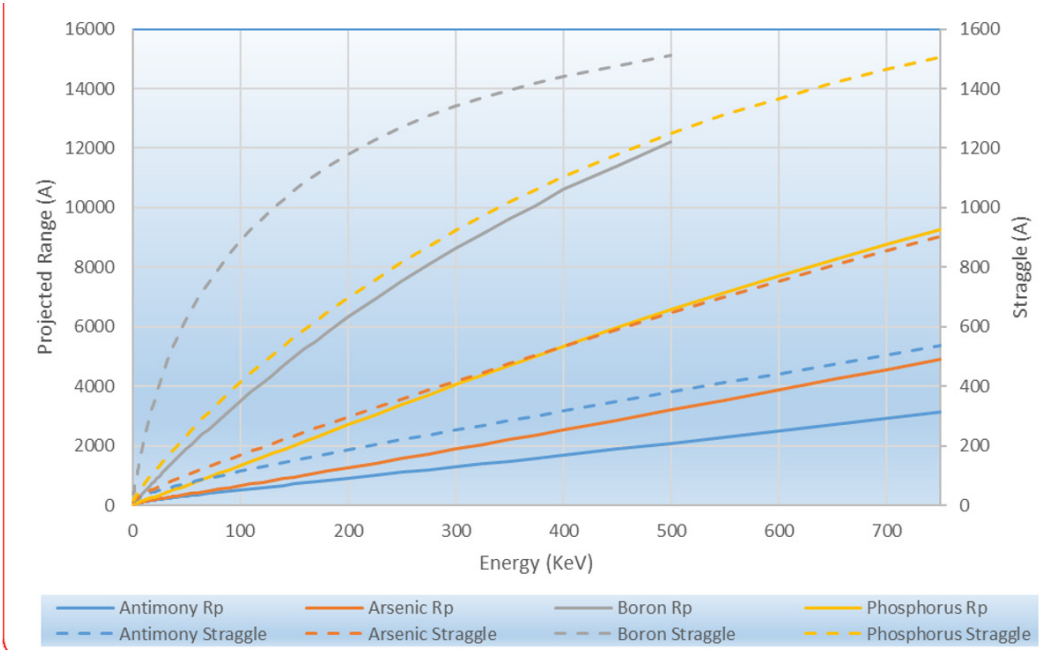
- Based on SRIM 2013 generated tables

Projected Range Statistics into Oxide
ref SRIM 2013



- Based on SRIM 2013 generated tables

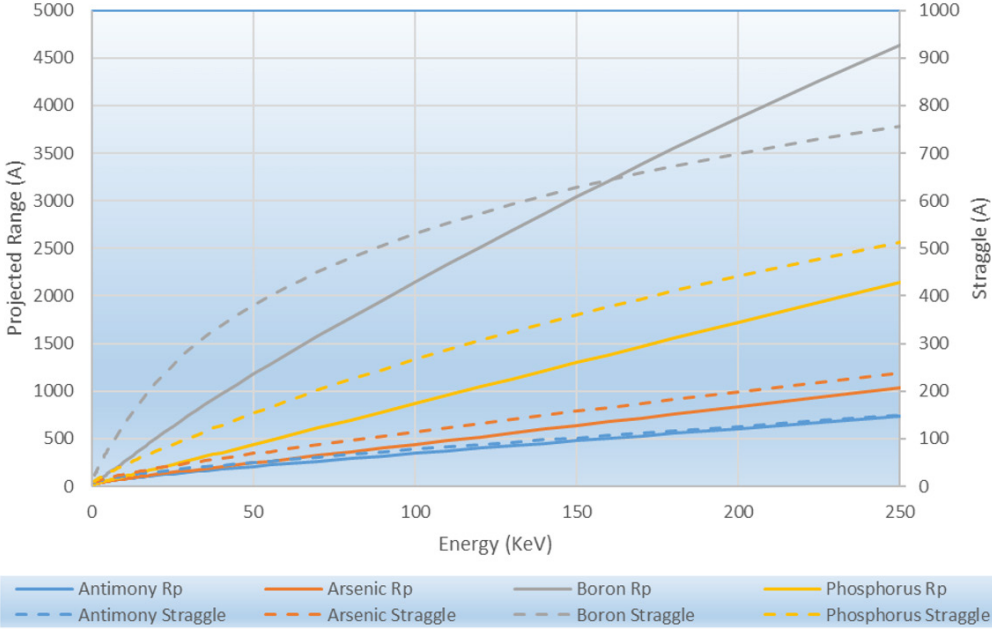
Projected Range Statistics into Oxide
ref SRIM 2013



- Based on SRIM 2013 generated tables

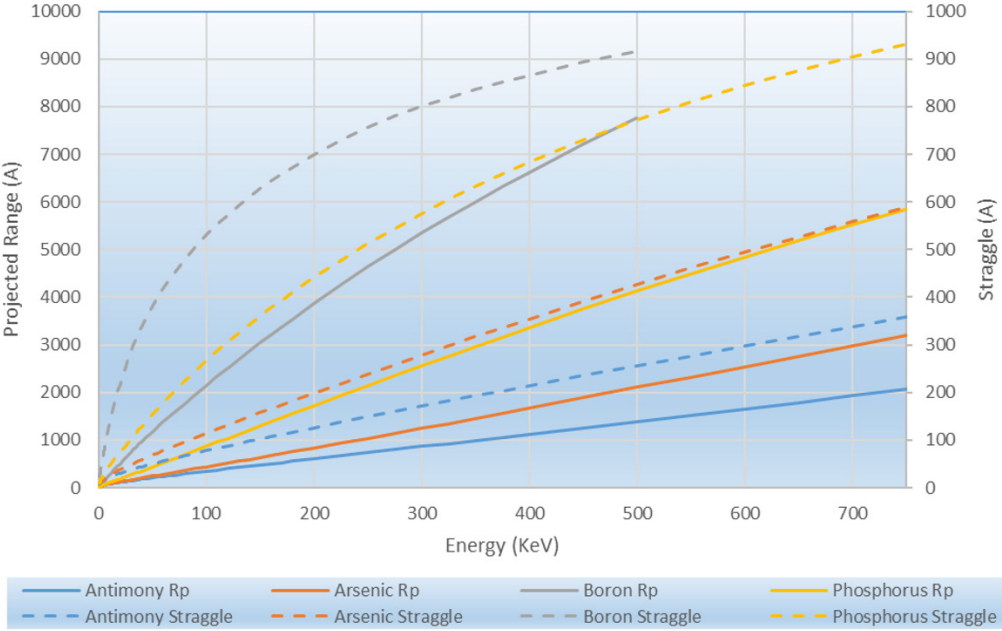
PROJECTED RANGE STATISTICS

Projected Range Statistics into Nitride
ref SRIM 2013



• Based on SRIM 2013 generated tables

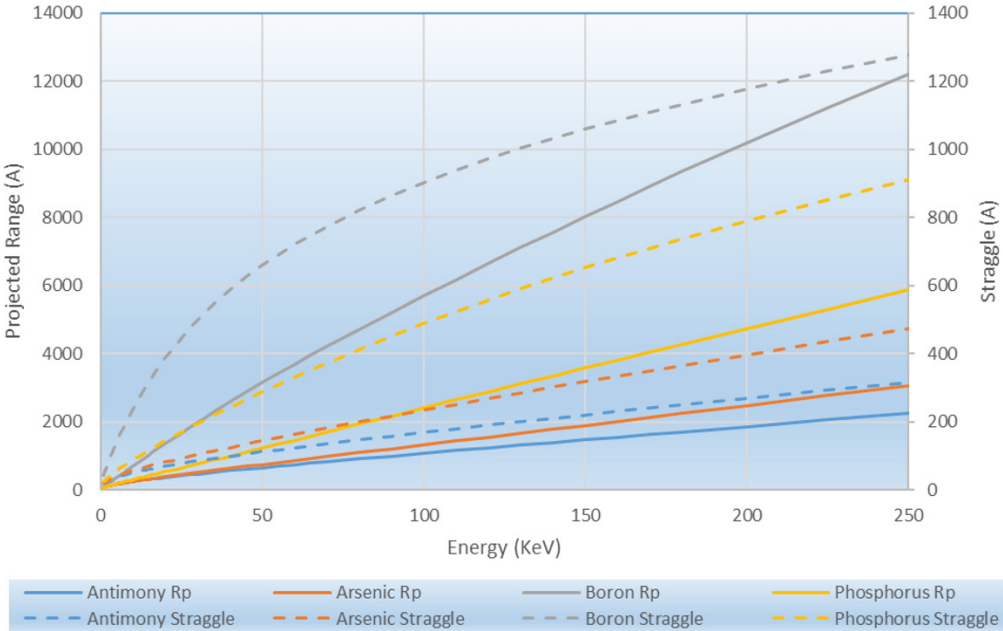
Projected Range Statistics into Nitride
ref SRIM 2013



• Based on SRIM 2013 generated tables

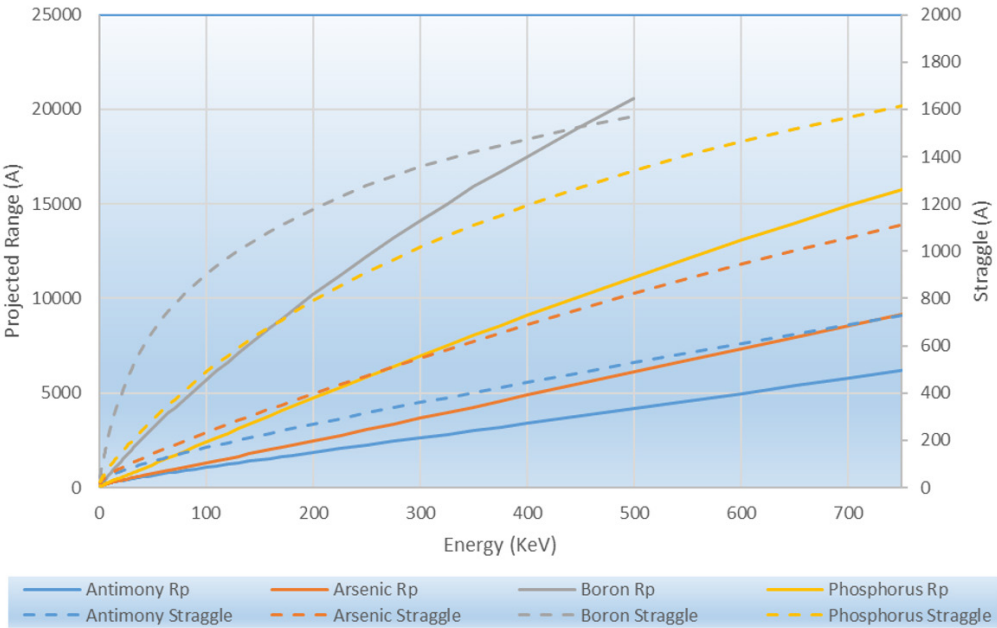
PROJECTED RANGE STATISTICS

Projected Range Statistics into AZ-111 Resist
ref SRIM 2013



• Based on SRIM 2013 generated tables

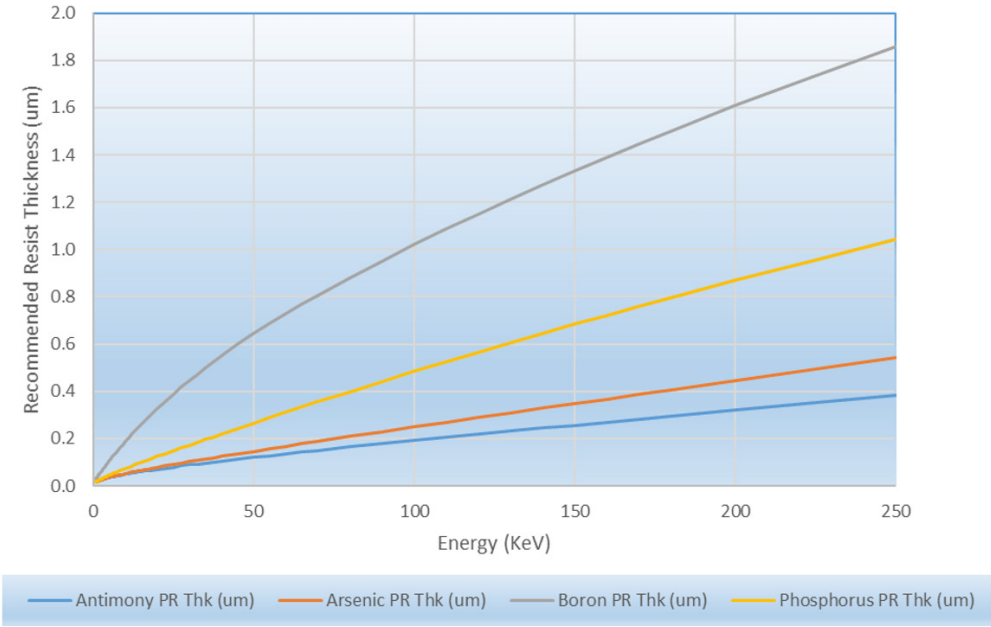
Projected Range Statistics into AZ-111 Resist
ref SRIM 2013



• Based on SRIM 2013 generated tables

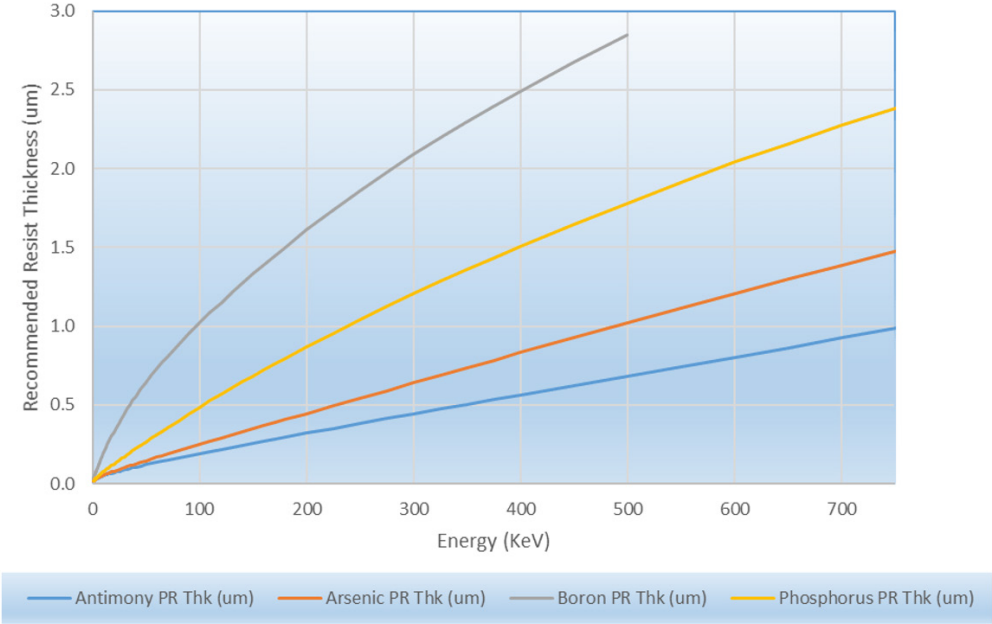
PROJECTED RANGE STATISTICS

Projected Range + 5 * Statistics -- Recommended Resist Thickness
ref SRIM 2013



- Based on SRIM 2013 generated tables

Projected Range + 5 * Statistics -- Recommended Resist Thickness
ref SRIM 2013



- Based on SRIM 2013 generated tables