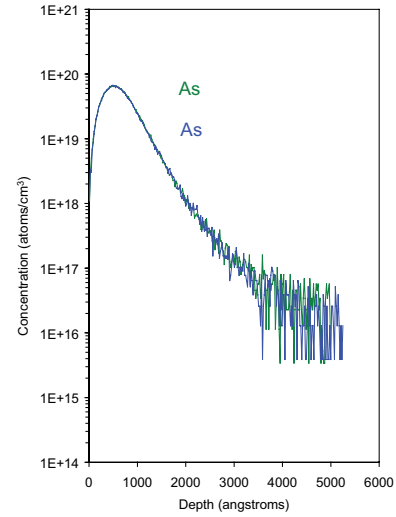


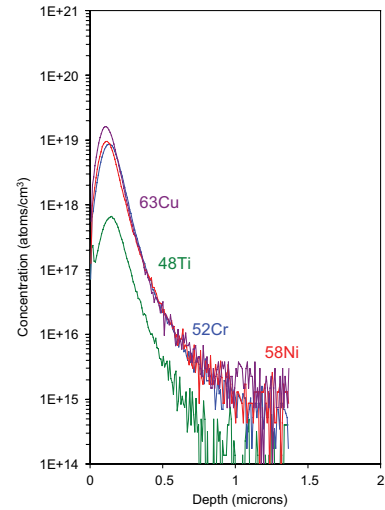
APPLICATION NOTE

# SIMS Detection Limits of Selected Elements in ZnO Under Normal Depth Profiling Conditions

O <sub>2</sub> /SIMS Positive Secondary Ion Detection		Cs/SIMS Negative Secondary Ion Detection	
Element	DL (atoms/cm <sup>3</sup> )	Element	DL (atoms/cm <sup>3</sup> )
B	1E+14	H	2E+17
Mg	5E+13	C	1E+16
Al	5E+13	N	2E+16
K	1E+13	F	5E+15
Ti	1E+14	Si	1E+17
Cr	5E+14	P	2E+15
Fe	5E+14	As	1E+16
Ni	1E+15		
Cu	1E+15		
Ga	5E+14		
In	1E+15		
Cd	5E+16		



Overlay of two separate SIMS profiles of an arsenic implant in ZnO. Excellent reproducibility is demonstrated in this example as well as the count-rate-limited detection limits of approximately 1e16 at/cm<sup>3</sup>.



Overlay of multiple species in a single SIMS profile for a ZnO sample containing implants of Ti, Cr, Ni and Cu.