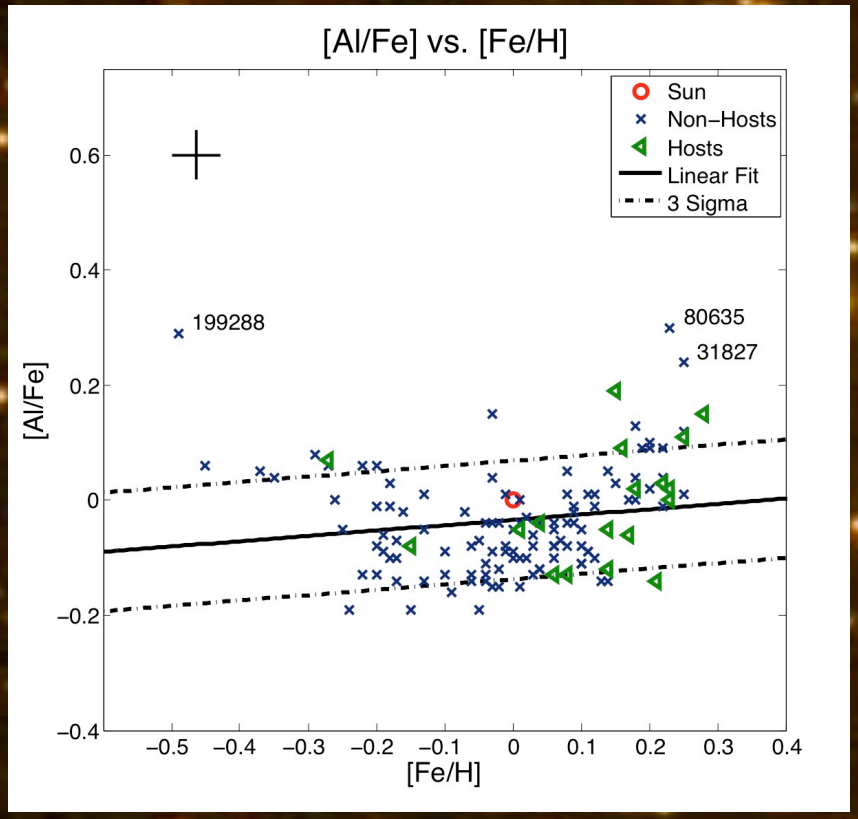
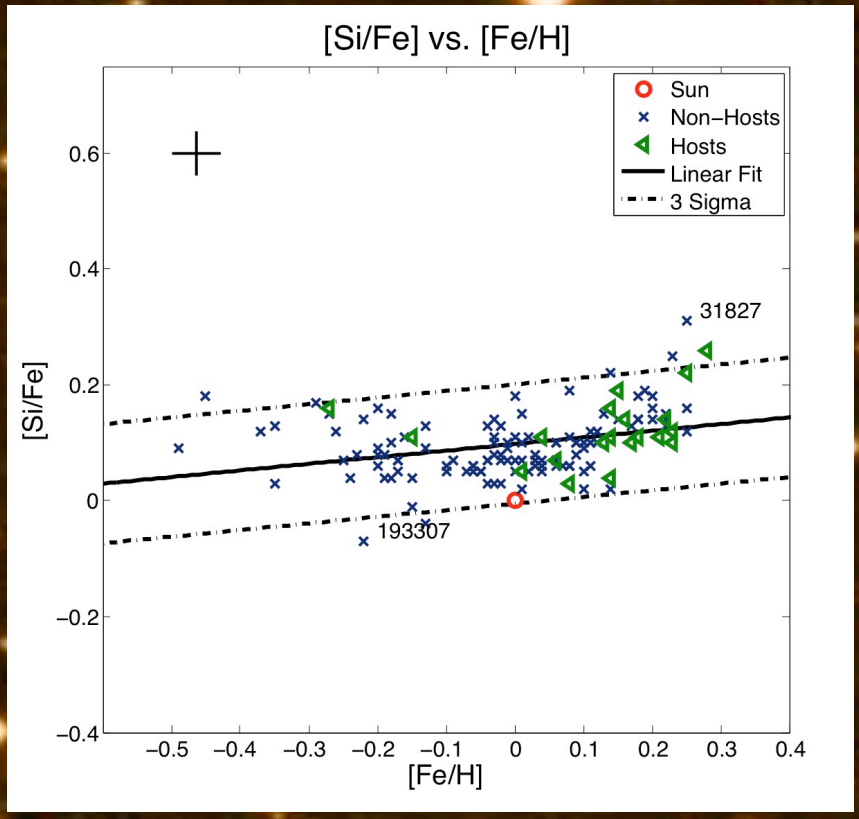
Composition of Nearby Stellar Dwarfs

Michael Pagano, Arizona State University





I find the composition of 13 chemical elements in nearby sun-like stars, to try to understand the differences in initial stellar abundances

- Also trying to determine exactly how ‘normal’ does the sun appear

Table 1. Abundances Variations for GS98

Element	Intrinsic Spread
C	±0.036
O	±0.048
Na	±0.033
Mg	±0.047
Al	±0.034
Si	±0.034
Ca	±0.033
TiI	±0.042
TiII	±0.043
Cr	±0.041
Ni	±0.035
Y	±0.047
Zr	±0.048
Ba	±0.049
Nd	±0.049
Eu	±0.052

	Deviation from Solar Abundance		
Element	GS98	GAS07	LPG09
C	-0.088	-0.173	-0.173
O	0.008	-0.121	-0.051
Na	-0.090	-0.188	-0.068
Mg	0.032	0.019	0.029
Al	0.079	0.093	0.124
Si	-0.114	-0.098	-0.078
Ca	-0.020	-0.027	-0.027
TiI	-0.041	-0.131	-0.100
TiII	0.025	-0.065	-0.035
Cr	-0.043	-0.021	-0.011
Ni	-0.006	0.031	0.021
Y	0.100	0.112	0.102
Zr	-0.022	-0.007	-0.017
Ba	0.054	0.134	0.144
Nd	-0.040	-0.064	-0.044
Eu	0.121	0.154	0.164

- Expect more! (possibly up to 600)
  - More planet hosts as well