狭バンドギャップを有する金属間化合物の熱電特性
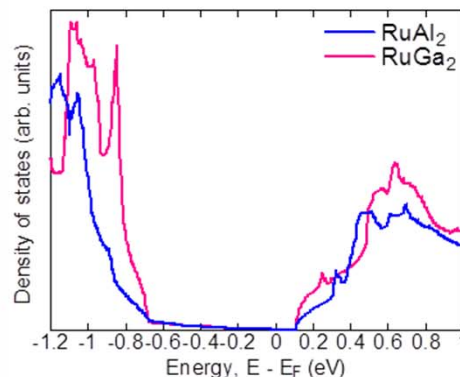
Dimensionless figure of merit, ZT
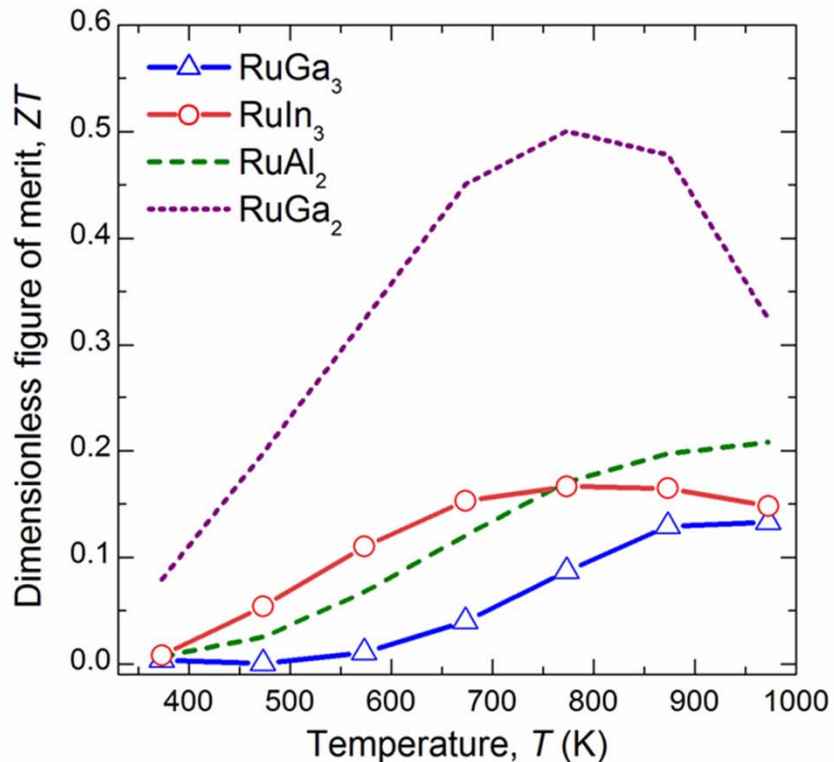
$TiSi_2$-type

$FeGa_3$-type

● Ga
● Ru
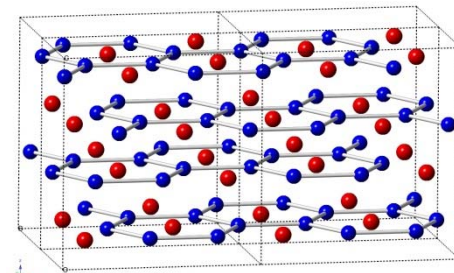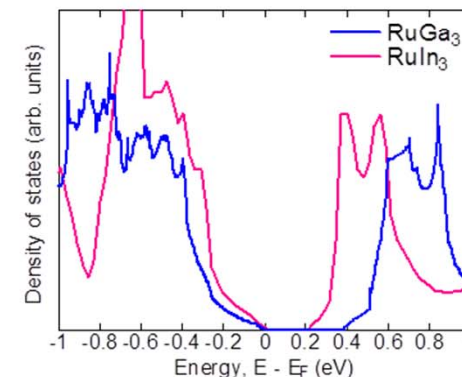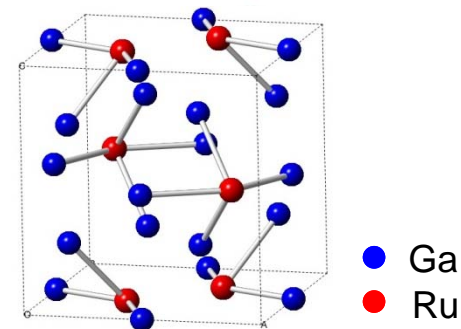
	RuGa$_3$	RuIn$_3$	RuAl$_2$	RuGa$_2$
Electrical resistivity, ρ_{300K} / $\mu\Omega$cm	2.7×10^5	3.1×10^5	1.1×10^4	1.0×10^4
Seebeck coefficient, S_{373K} / μV K^{-1}	-550	210	145	300
Hall coefficient, R_H / cm^3 C^{-1}	-2.6	-3.5	0.3	1.5
Carrier concentration, n_{300K} / cm^{-3}	$2.4*10^{18}$	$1.8*10^{18}$	$2.1*10^{19}$	$2.4*10^{18}$
Carrier mobility, μ_{300K} / cm^2 V^{-1}s^{-1}	10	11	26	**150**
Theoretical bandgap, $E_{g\ theor}$ / eV	~0.4	~0.2	~0.3	~0.3
Experimental bandgap, $E_{g\ expt}$ / eV	0.33	0.19	0.15	0.32