$Ag_{51}Gd_{14}$	*hP*68	(175) $P6/m - l^3k^2j^2hec$

$GdAg_{3.6}$ [1]; $Hf_{14}Cu_{51}$ [3]; $PuAg_3$ (see remark)
Structural features: Gd_2Ag_{24} units (two Gd inside a double hexagonal antiprism capped by two triangles) and $GdAg_{14}$ polyhedra share atoms to form a dense 3D-framework. See Fig. IV.87.

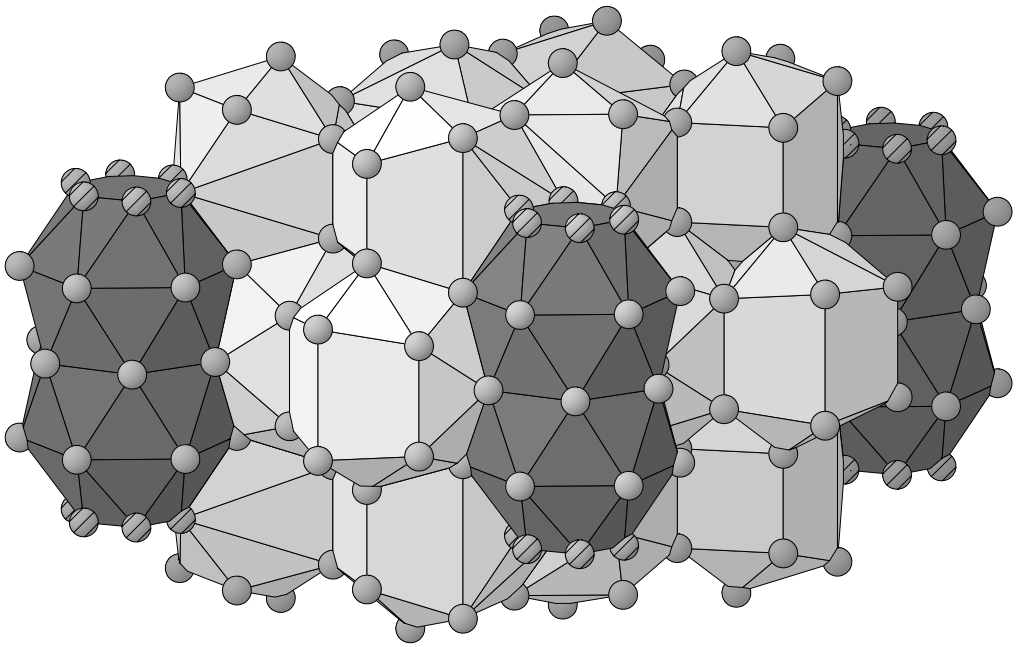

Fig. IV.87. **$GdAg_{3.6}$**

Arrangement of $GdAg_{12}$ polyhedra (light) and Gd_2Ag_{24} units (dark): two Gd atoms inside a double hexagonal antiprism capped by two triangles (the Ag atoms from the partly occupied site forming the latter are hatched).

Bailey D.M., Kline G.R. (1971) [1]
$Ag_{50.85}Gd_{14}$
a = 1.2670, c = 0.9332 nm, c/a = 0.737, V = 1.2974 nm^3, Z = 1

site	Wyck.	sym.	x	y	z	occ.	atomic environment
Ag1	12*l*	1	0.1049	0.439	0.3305		pseudo Frank-Kasper Ag_9Gd_4
Ag2	12*l*	1	0.2662	0.0744	0.2370		pseudo Frank-Kasper Ag_9Gd_4
Ag3	12*l*	1	0.4944	0.1155	0.1526		icosahedron Ag_8Gd_4
Ag4	6*k*	*m*..	0.0589	0.2383	$^1/_2$		icosahedron Ag_8Gd_4
Gd5	6*k*	*m*..	0.4680	0.1394	$^1/_2$		14-vertex polyhedron Ag_{14}
Ag6	6*j*	*m*..	0.0193	0.1324	0	0.4742	
Gd7	6*j*	*m*..	0.1138	0.3898	0		15-vertex Frank-Kasper Ag_{15}
Ag8	4*h*	3..	$^1/_3$	$^2/_3$	0.2987		bicapped square prism Ag_7Gd_3
Gd9	2*e*	6..	0	0	0.3060		
Ag10	2*c*	-6..	$^1/_3$	$^2/_3$	0		pseudo Frank-Kasper Ag_8Gd_3

Transformation from published data: *y*,*x*,-*z*
Experimental: single crystal, diffractometer, X-rays, R = 0.045

Remarks: Identical to the phase called Gd_2Ag_7 in [4], same sample studied. The authors suggest splitting of site Gd7 to avoid short interatomic distances d(Gd7-Ag6). Non-centrosymmetric space groups were tested and rejected. The atom coordinates have not been determined for $PuAg_3$ (cell parameters in [2], isotypism stated in [1]). Short interatomic distances for partly occupied site(s).

References: [1] Bailey D.M., Kline G.R. (1971), Acta Crystallogr. B 27, 650-653. [2] Runnalls O.J.C. (1956), Can. J. Chem. 34, 133-145. [3] Gabathuler J.P., White P., Parthé E. (1975), Acta Crystallogr. B 31, 608-610. [4] McMasters O.D., Gschneidner K.A. Jr., Venteicher R.F. (1970), Acta Crystallogr. B 26, 1224-1229.