The molecules in the unit cell were then located by calculating a Patterson function modified according to Giglio, Liquori & Ripamonti (1958). The signs of a high percentage of the structure amplitudes were thus established.

A first Fourier synthesis allowed us to determine the coordinates of all the atoms with a sufficient accuracy. After some refinement according to the usual methods, the projection of the electron density along the 010 shown in Fig. 1 was obtained. From the Fourier projection of Fig. 1 it appears—as foreseen—that the molecule is planar or nearly planar. However, only a detailed structure determination now in progress may permit the determination of accurate bond lengths and bond angles and the detection of any small rotations of the benzene rings around the bonds connecting them to the triazine ring. This effect, in the case of 1,2,5-triphenylbenzene (Farag, 1954), proved to be very strong.

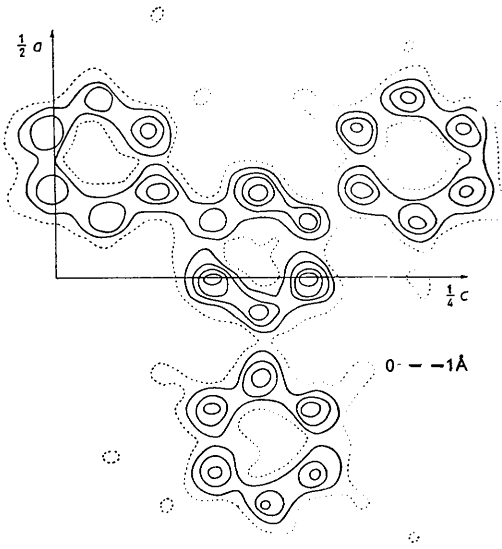

Fig. 1. Fourier projection on 010.

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Monoclinic glycine sulfate: Optical parameters.

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The morphology of monoclinic triglycine sulfate (Wood & Holden, 1957) clearly reveals the orientation of the unique b-axis. The b-axis coincides with the acute bisectrix X (vibration direction of the fast ray, lowest index refraction) and is normal to the planes of easy cleavage. The obtuse bisectrix Z (vibration direction of the slow ray, highest index of refraction) is 3° from the perpendicular to (100) in a plane normal to the b-axis, while the optic normal Y (vibration direction of intermediate ray, intermediate index of refraction) is approximately perpendicular to ($\bar{1}02$) and forms an angle of 3° with c.

The refractive indices and the optic angle have been determined from microscopical examination using calibrated immersion liquids and the Becke line method, and also using larger polished sections and a Bausch and Lomb Abbé-type refractometer. The averaged values of the three indices are:

$$n_p = 1{\cdot}484 \pm 0{\cdot}000$$
$$n_m = 1{\cdot}556_5 \pm 0{\cdot}000_5$$
$$n_g = 1{\cdot}584_5 \pm 0{\cdot}000_5$$

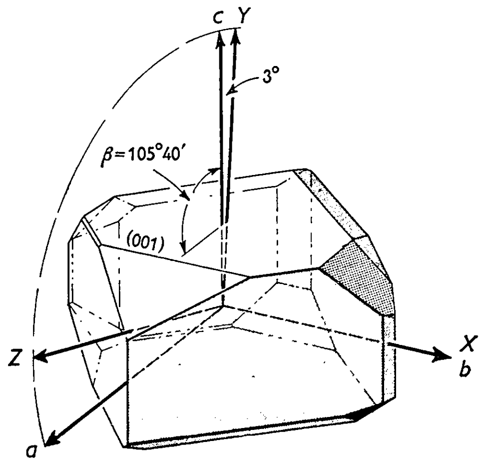

Fig. 1. Crystal axes (a, b, c), obtuse bisectrix Z and optic normal Y of monoclinic glycine sulfate.

giving an averaged value of the optic angle of

$$2V = 61° \, 18' \pm 1° \, 5' \, ,$$

where the deviations are average deviations of the two independent methods.

The optic angle was also determined directly with a conoscope and was found to be in agreement. The optic angle quoted above should be used in preference to the previously reported 40±5° (Wood & Holden, 1957).

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A new crystallographic modification of rhodium monosilicide.

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A new modification of RhSi was prepared by heating rhodium and an excess of silicon (atomic ratio 1:3), in finely divided form, for one hour at 1200 °C. and then for one-half hour at 1550 °C.

The preparation was carried out by induction heating of small samples (0·5–1·0 g.) under vacuum in alumina crucibles. Silicon escaped, presumably as SiO, through the 1 mm. diameter hole in the lid of the crucible. The product in the crucible showed the CsCl ($B2$) structure. The unit-cell dimension (Cu radiation, resolved doublets $\alpha_1 = 1{\cdot}54050$, $\alpha_2 = 1{\cdot}54434$ Å) is $a_0 = 2{\cdot}963 \pm 0{\cdot}0005$ Å. The calculated density is 8·4 g.cm.$^{-3}$. The density of the FeSi ($B20$) modification of this compound as determined by Geller (1954) is 8·3 g.cm.$^{-3}$ (calculated 8·5 g.cm.$^{-3}$).

Table 1. *Diffraction data*

hkl		$\sin^2\theta_c$	$\sin^2\theta_o$	I_o	I_c
100		0·0677	0·0685	5	4·5
110		0·1354	0·1359	10	10·0
111		0·2031	0·2034	1	1·1
200		0·2708	0·2713	2	1·6
210		0·3385	0·3384	2	1·3
211		0·4061	0·4056	5	3·2
220		0·5415	0·5406	1	1·1
221, 300		0·6092	0·6072	1	0·8
310		0·6769	0·6757	3	2·0
311	α_1	0·7433	0·7431	1$^-$	0·7
	α_2	0·7471	0·7477		
222	α_1	0·8109	0·8098	1	0·8
	α_2	0·8150	0·8148		
320	α_1	0·8785	0·8792	1	1·1
	α_2	0·8830	0·8830		
321	α_1	0·9461	0·9456	8	8·8
	α_2	0·9509	0·9511		

The diffraction data appear in Table 1. It was difficult to assess the values of the observed intensities, as the diffraction lines on the film were grainy. This fact also introduced some uncertainty in the observed $\sin^2\theta$ values.

The only other silicide so far reported to have the CsCl structure is RuSi which is also found in the FeSi modification (Korst, Finnie & Searcy, 1957).

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