

SIMETRIA REȚELELOR CRISTALINE



SISTEME CRISTALOGRAFICE

ELEMENTE SIMPLE DE SIMETRIE

(1) AXELE DE SIMETRIE:

*DEFINIȚIA;

*OPERAȚIA DE SIMETRIE PENTRU STABILIREA AXELOR – *ROTAȚIA*;

*ORDINUL AXELOR (n);

*NOTAȚIA AXELOR (aA^n).

(2) PLANELE DE SIMETRIE:

*DEFINIȚIA;

*OPERAȚIA DE SIMETRIE PENTRU STABILIREA PLANELOR –
REFLEXIA/UGLINDIREA;

*ORDINUL PLANELOR (n);

*NOTAȚIA PLANELOR (bP^n).

(3) CENTRUL DE SIMETRIE:

*DEFINIȚIA;

*OPERAȚIA DE SIMETRIE PENTRU STABILIREA CENTRULUI –
INVERSIUNEA;

*NOTAȚIA CENTRULUI (C/G).

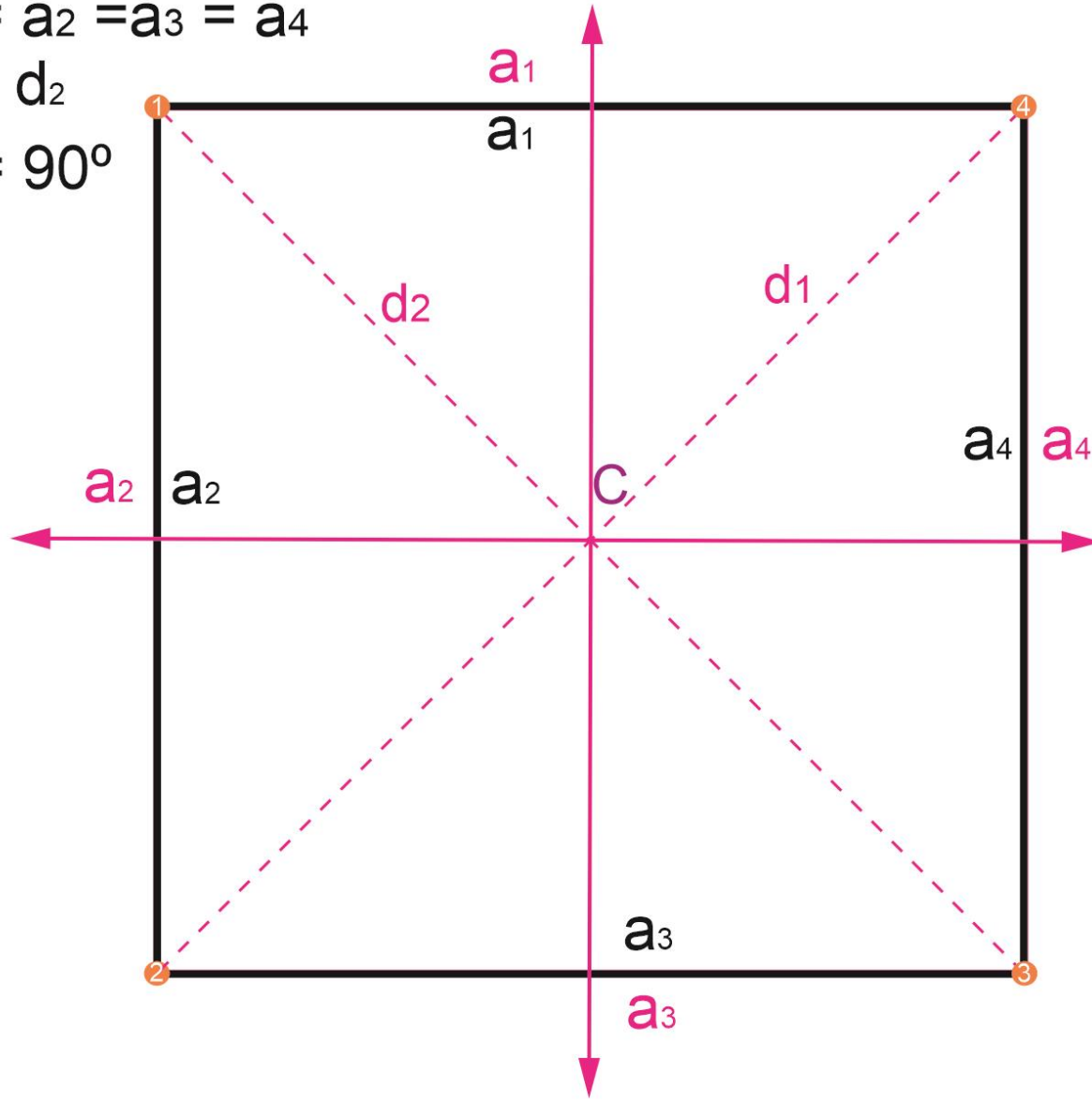
SIMETRIA POLIGOANELOR

PĂTRATUL

$$a_1 = a_2 = a_3 = a_4$$

$$d_1 = d_2$$

$$\sphericalangle = 90^\circ$$

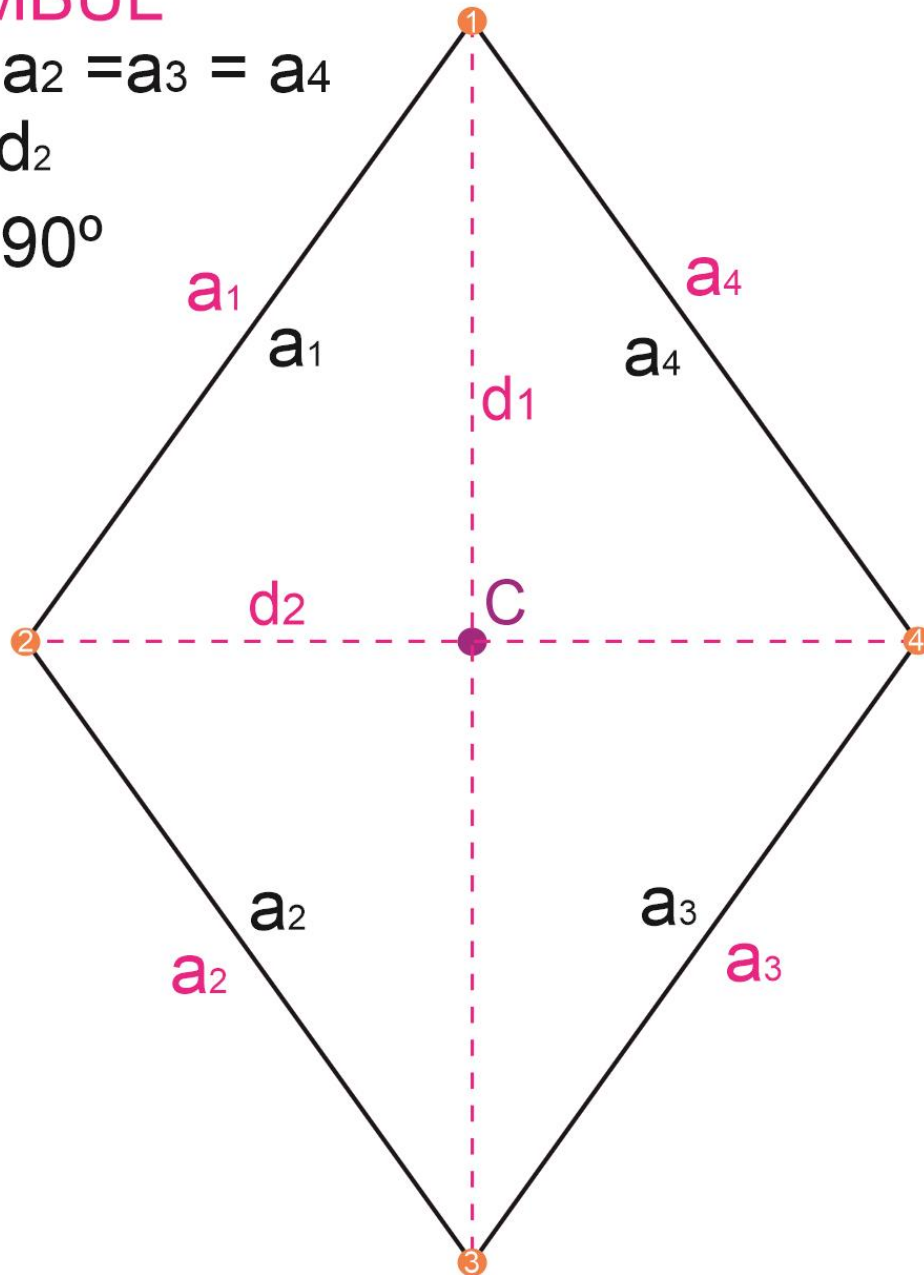


ROMBUL

$$a_1 = a_2 = a_3 = a_4$$

$$d_1 > d_2$$

$$\sphericalangle \neq 90^\circ$$

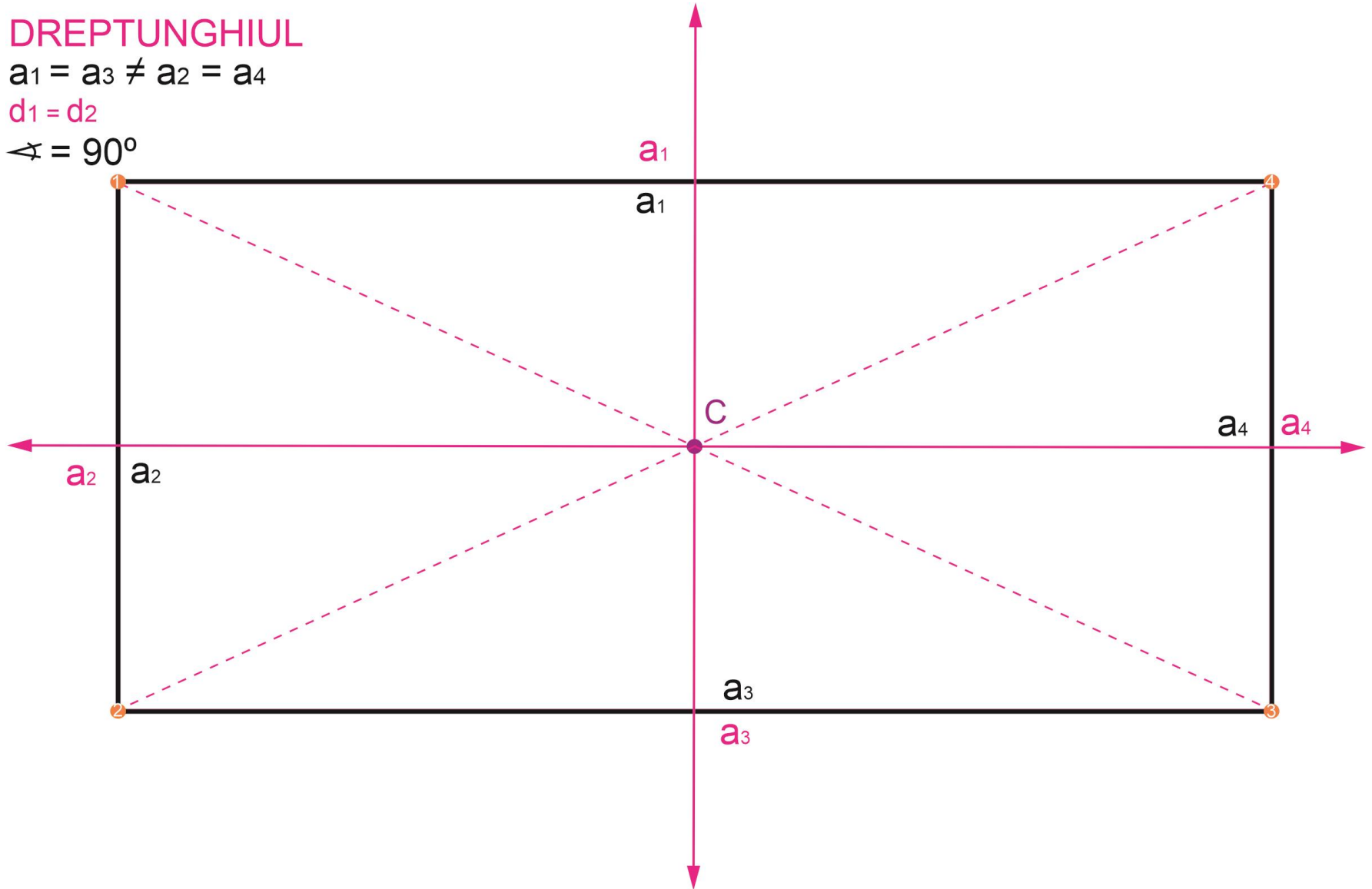


DREPTUNGHIUL

$$a_1 = a_3 \neq a_2 = a_4$$

$$d_1 = d_2$$

$$\sphericalangle = 90^\circ$$

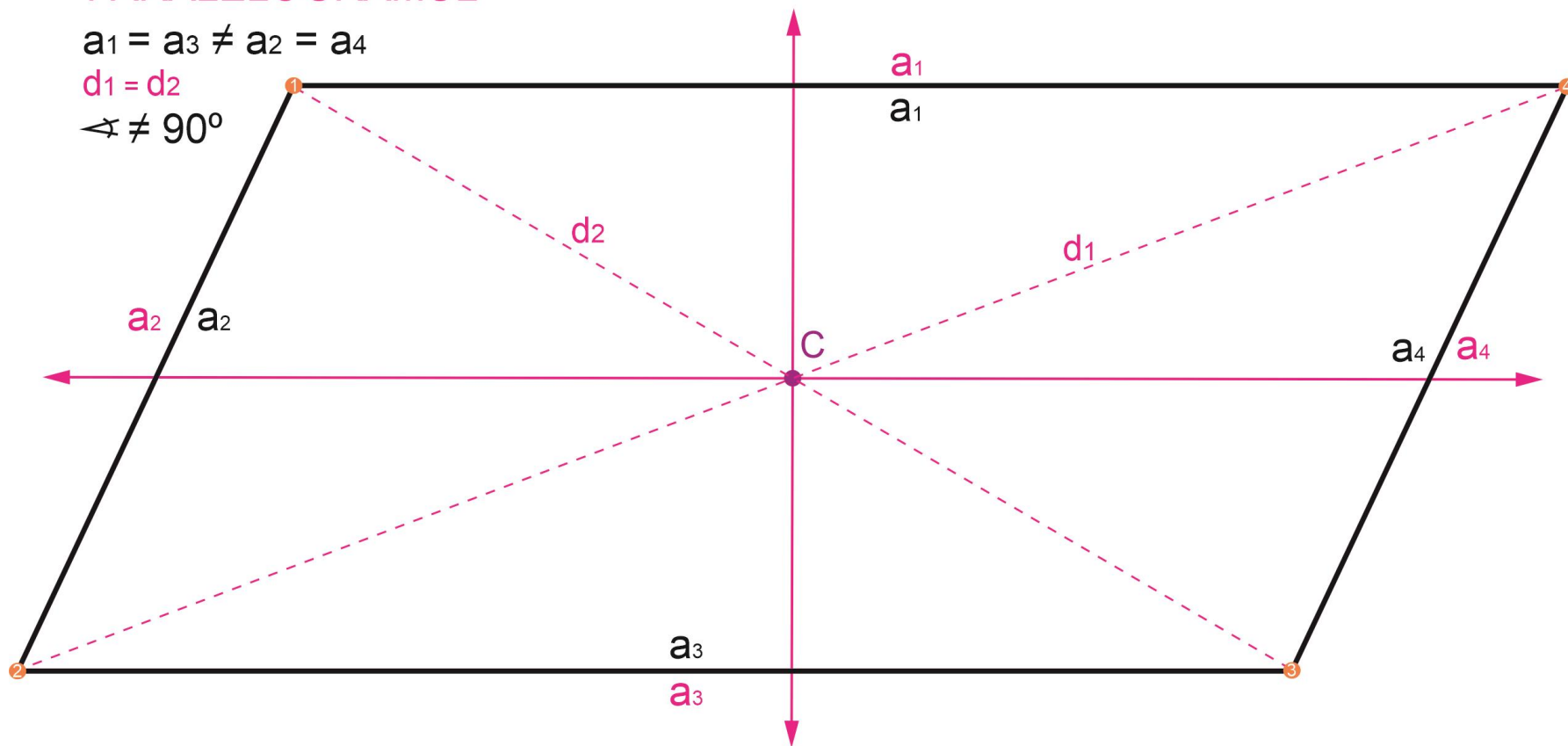


PARALELOGRAMUL

$$a_1 = a_3 \neq a_2 = a_4$$

$$d_1 = d_2$$

$$\sphericalangle \neq 90^\circ$$

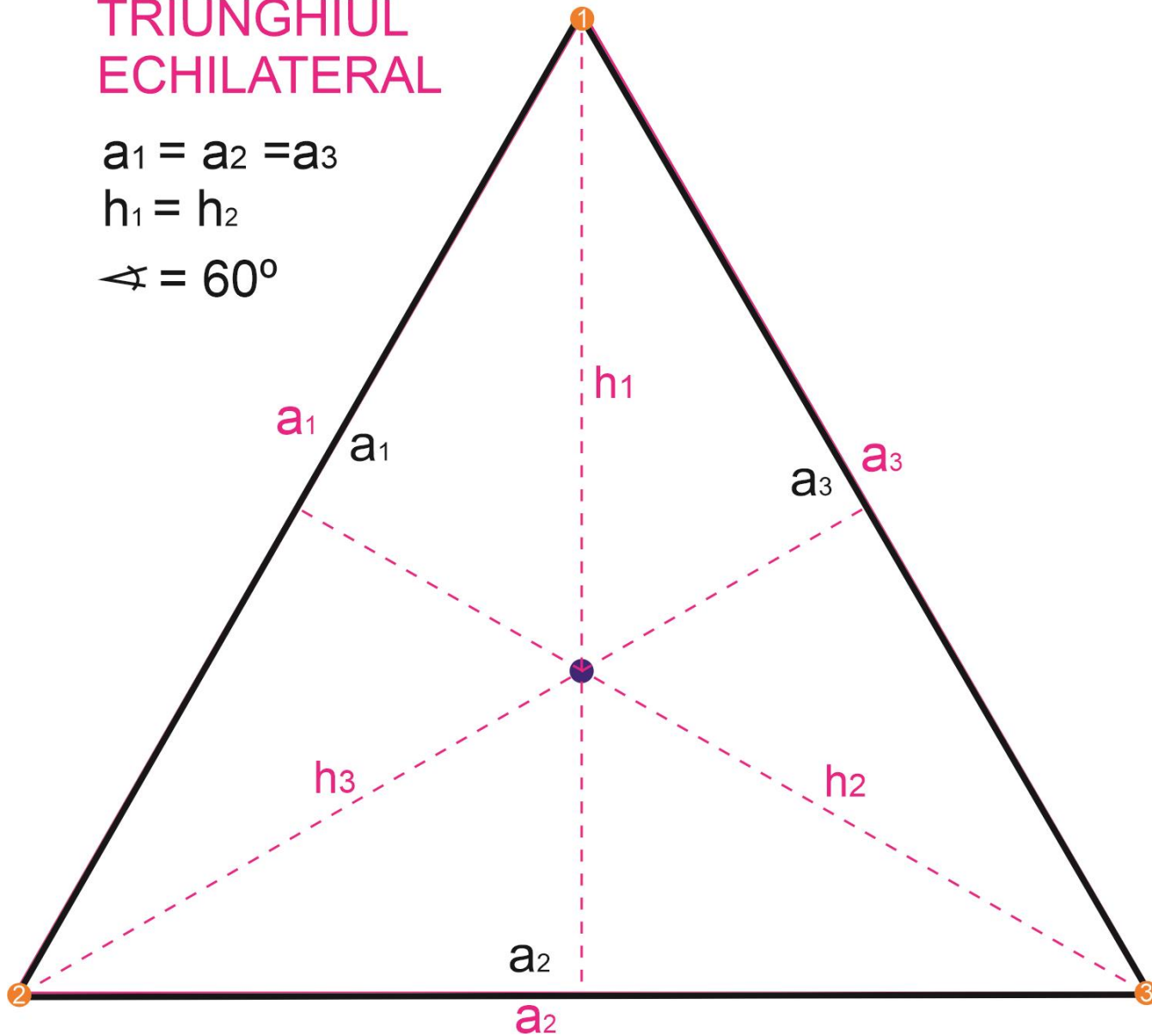


TRIUNGHIUL ECHILATERAL

$$a_1 = a_2 = a_3$$

$$h_1 = h_2 = h_3$$

$$\angle = 60^\circ$$

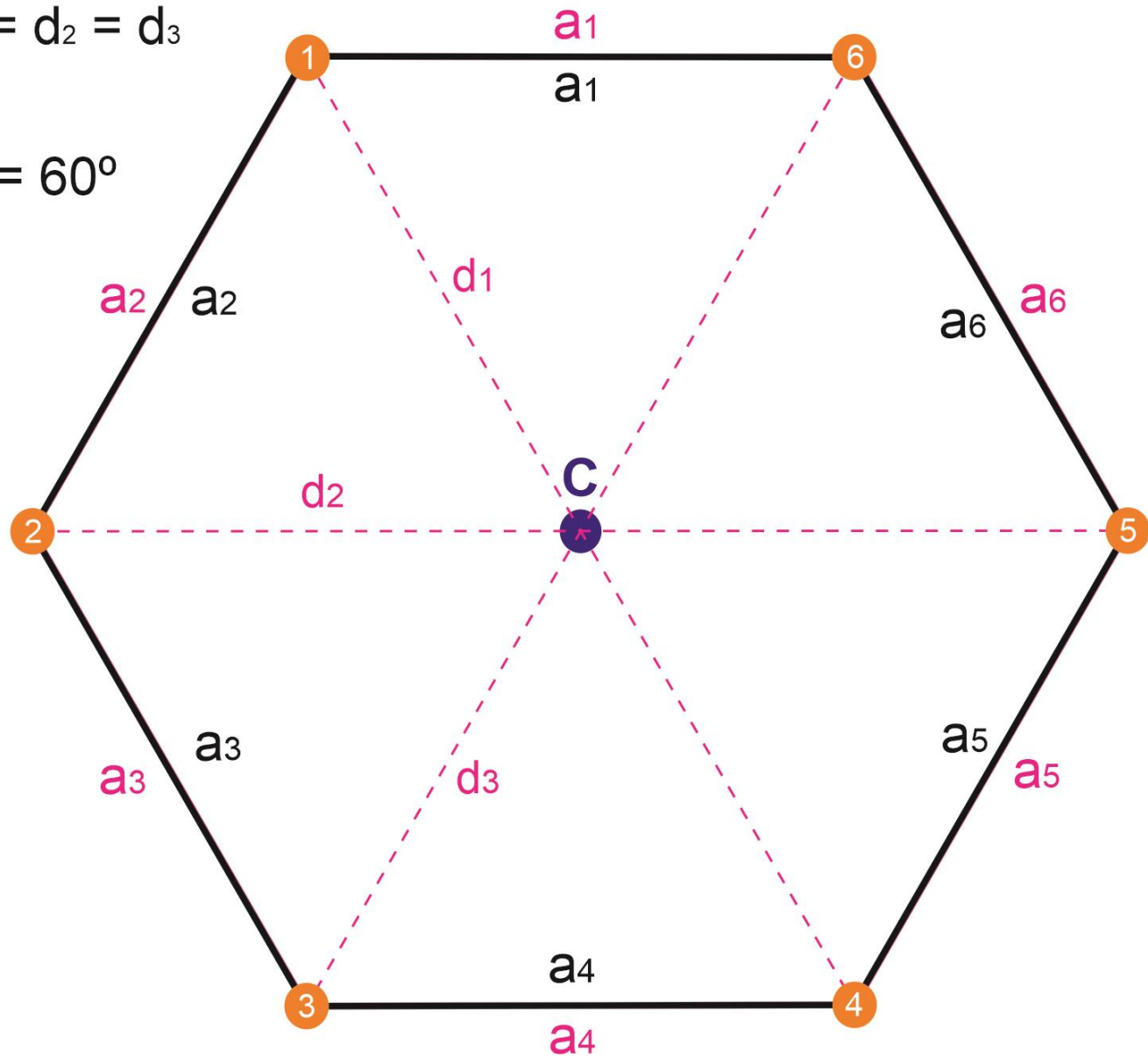


HEXAGONUL

$$a_1 = a_2 = a_3 = a_4 = a_5 = a_6$$

$$d_1 = d_2 = d_3$$

$$\angle = 60^\circ$$



POLIEDRE

S.C

F =

C =

M =

S.R

F =

C =

M =

S.H

F =

C =

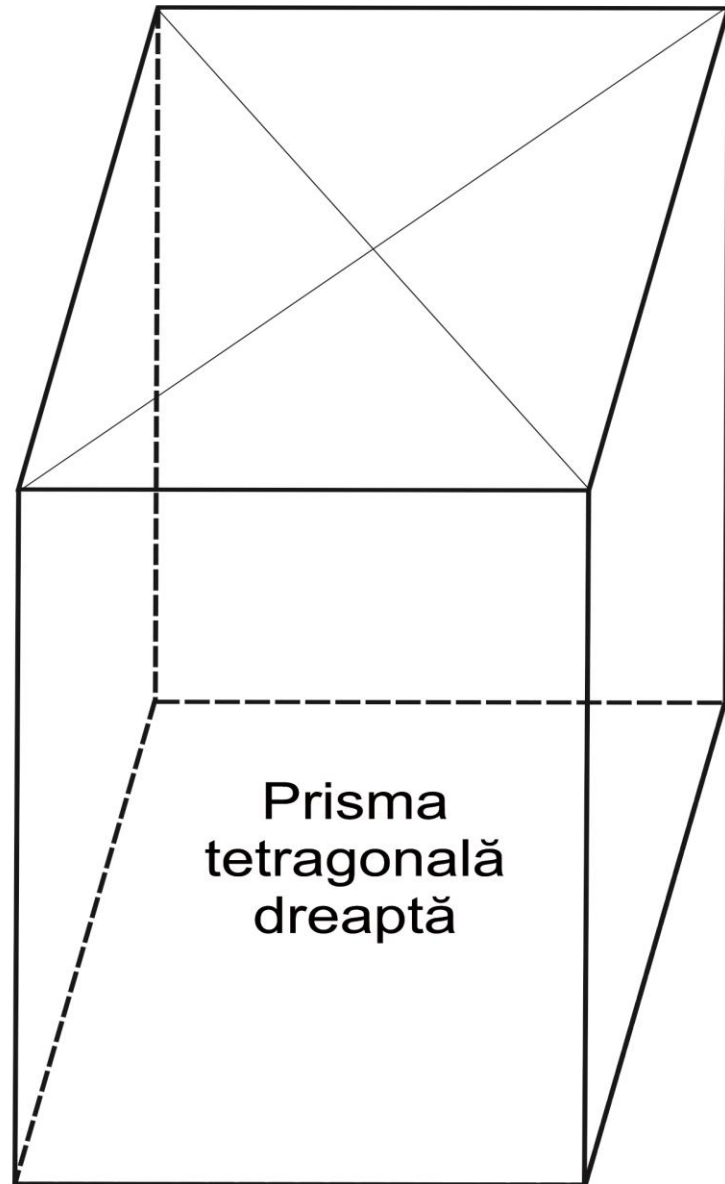
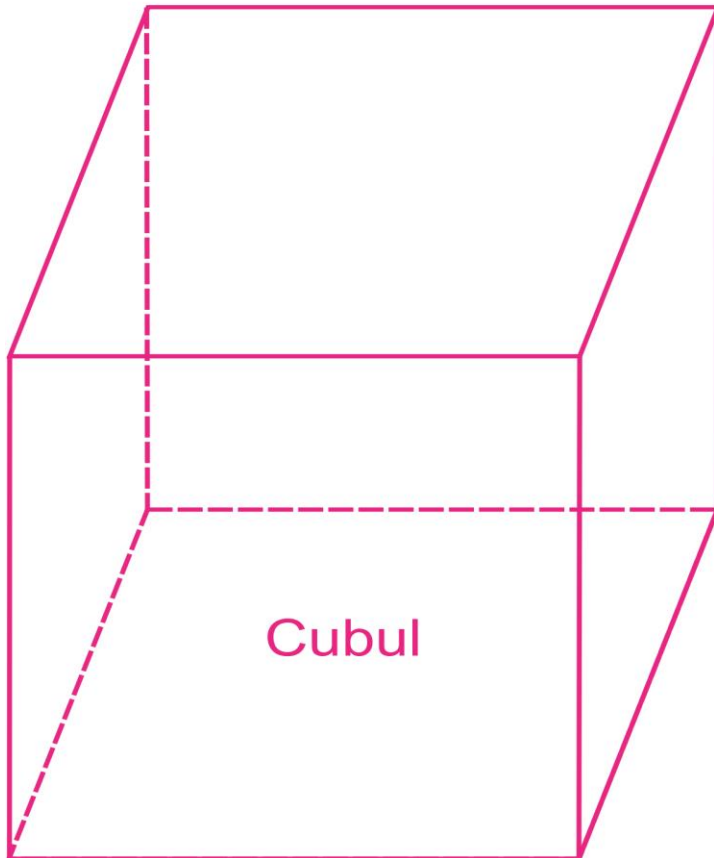
M =

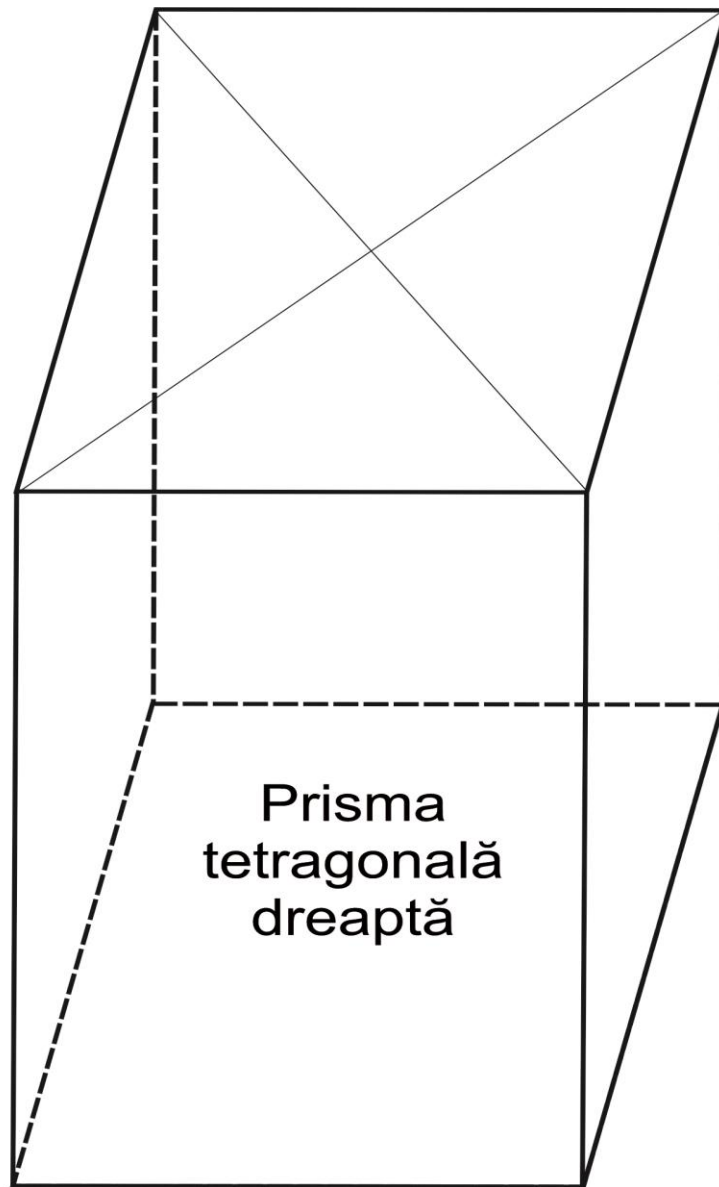
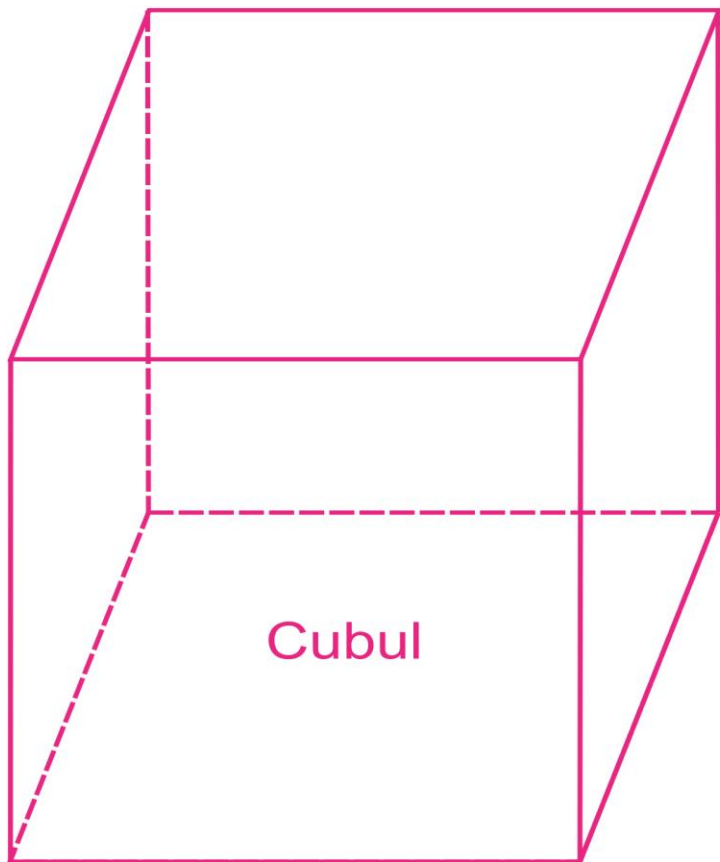
S.T

F =

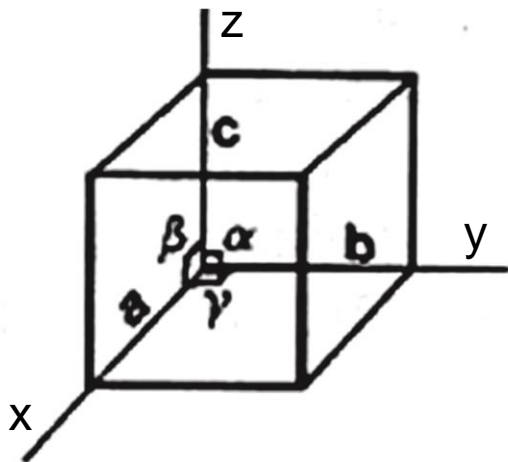
C =

M =

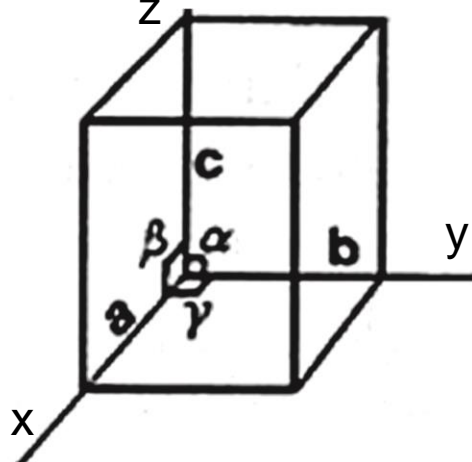




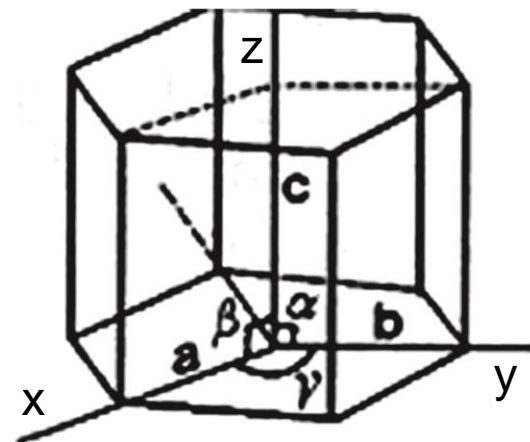
SISTEMUL CUBIC



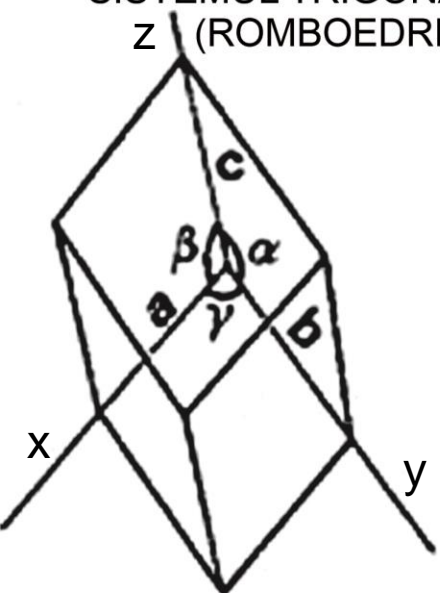
SISTEMUL TETRAGONAL



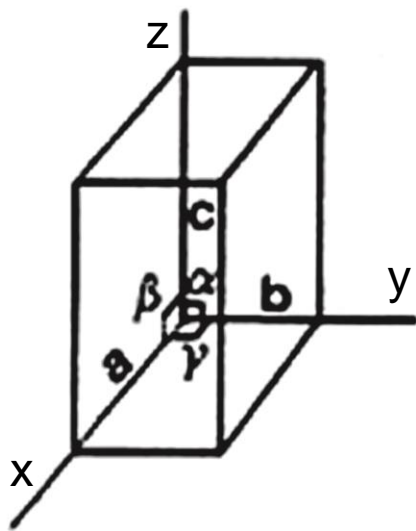
SISTEMUL HEXAGONAL



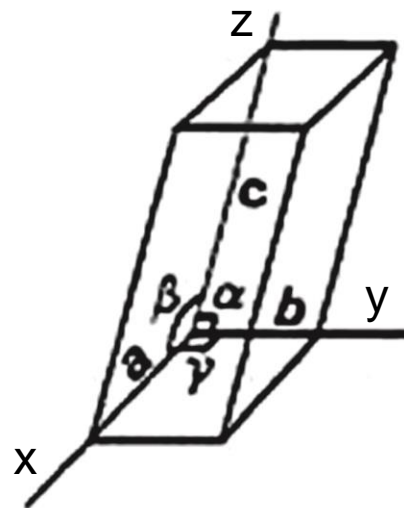
SISTEMUL TRIGONAL
Z (ROMBOEDRIC)



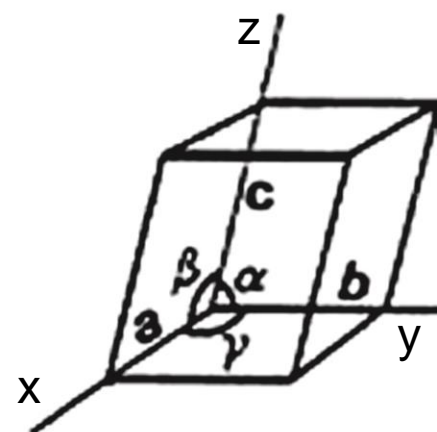
SISTEMUL ROMBIC



SISTEMUL MONOCLINIC



SISTEMUL TRICLINIC



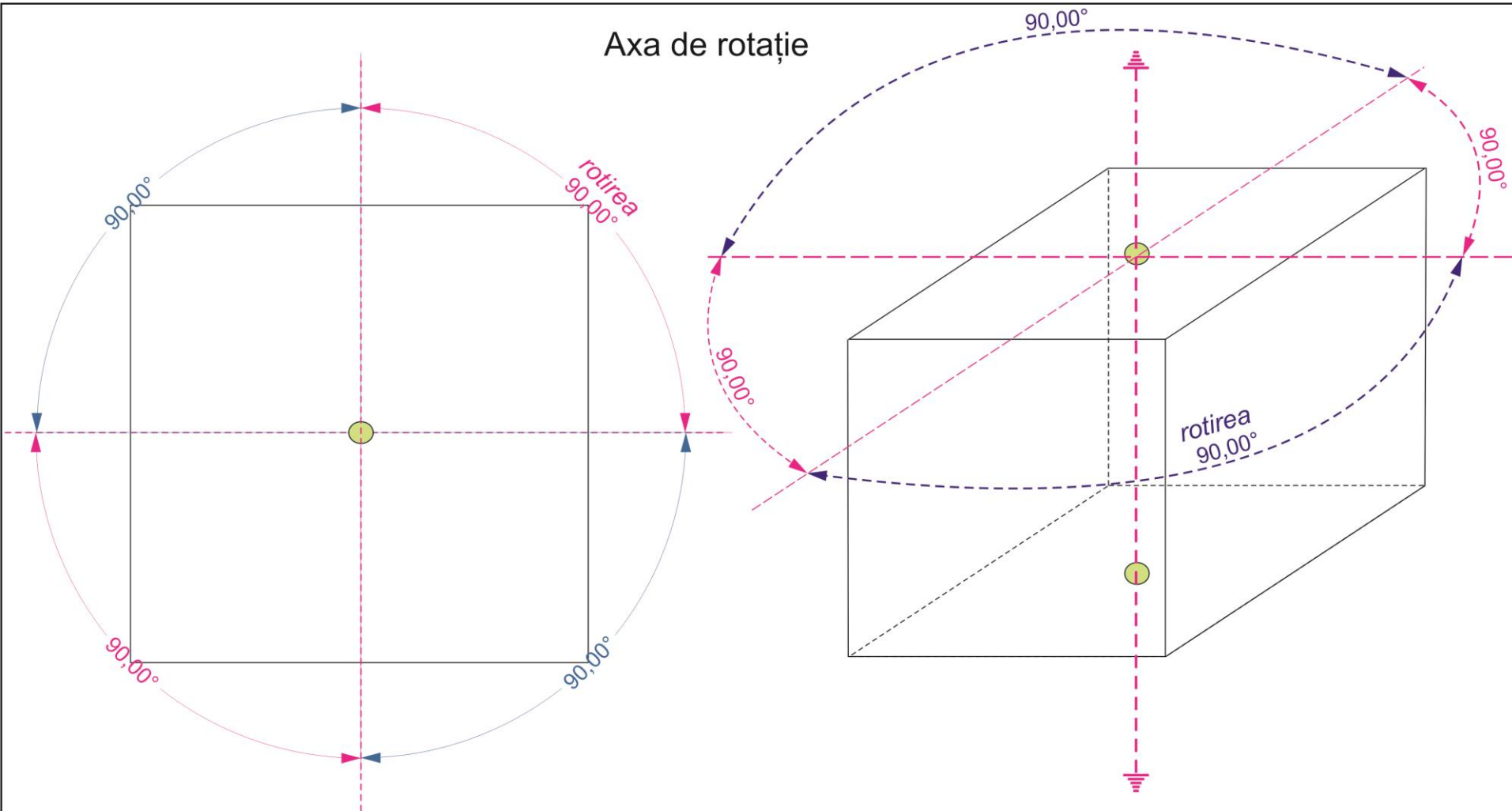
SISTEMELE CRISTALOGRAFICE

(Androne, 2008)

SIMETRIA POLIEDRELOR

(1) AXELE DE SIMETRIE

- *DEFINIȚIA;
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(2) PLANELE DE SIMETRIE

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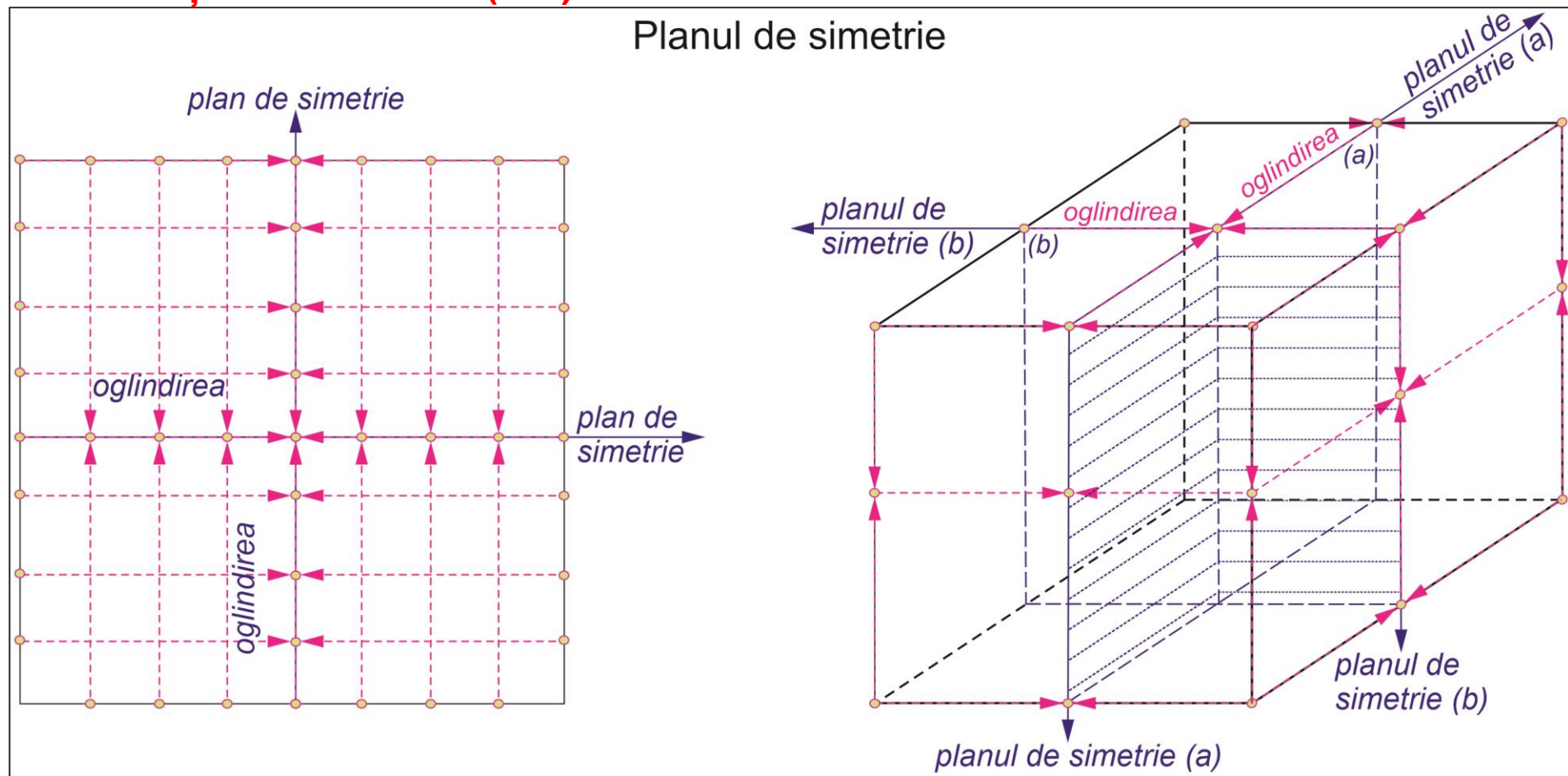
*DEFINIȚIA;

*OPERAȚIA DE SIMETRIE PENTRU STABILIREA PLANELOR –
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*NOTAȚIA PLANELOR (bP^n).

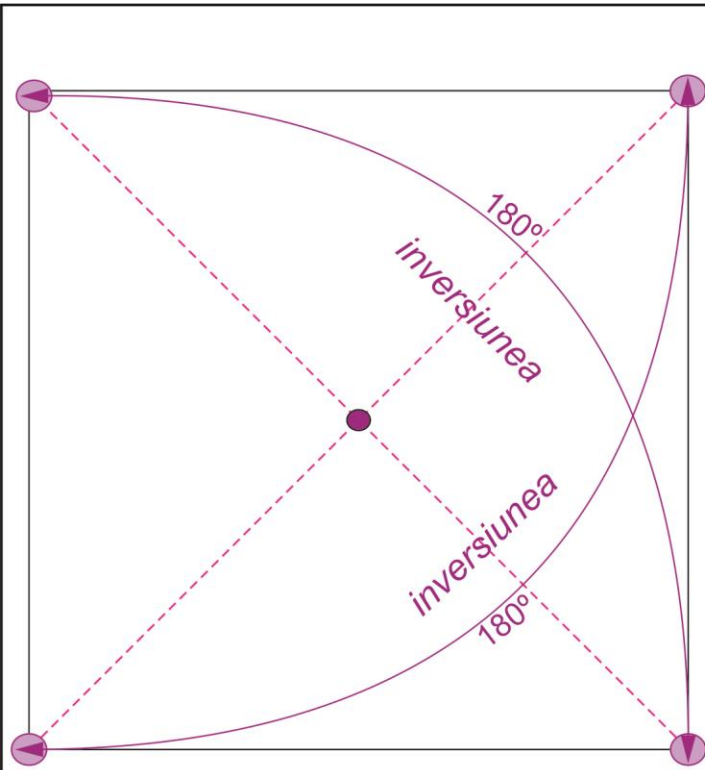
Planul de simetrie



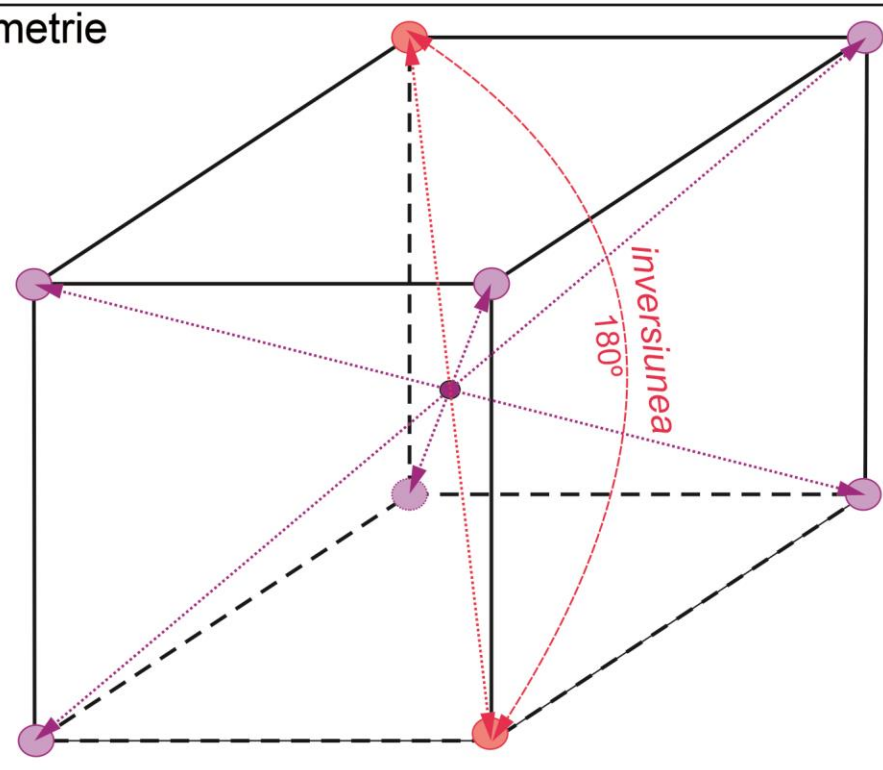
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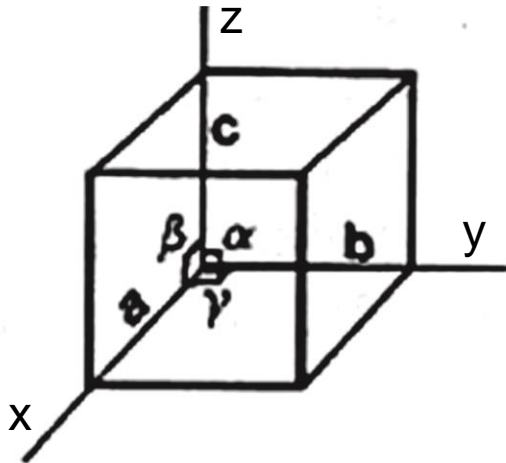
Centrul de simetrie



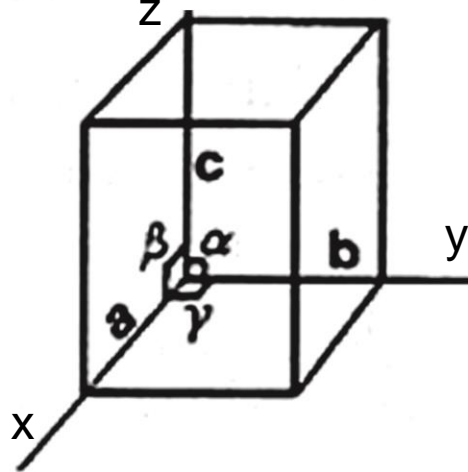
SISTEMELE CRISTALOGRAFICE

**Sunt caracterizate de: paralelipipedul elementar, relația axială și simetria caracteristică*

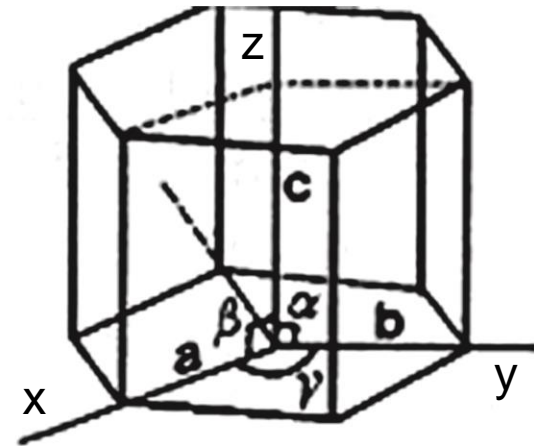
SISTEMUL CUBIC



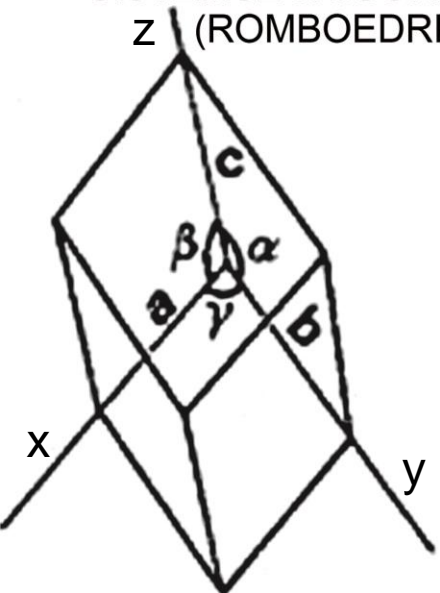
SISTEMUL TETRAGONAL



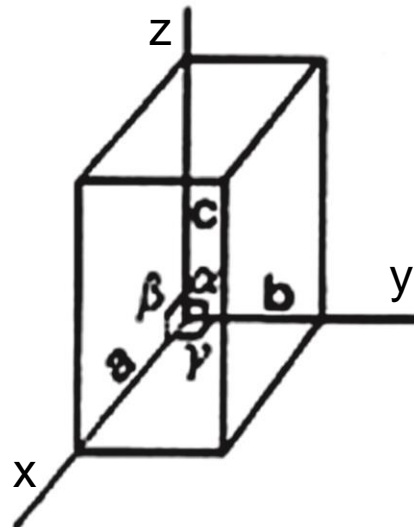
SISTEMUL HEXAGONAL



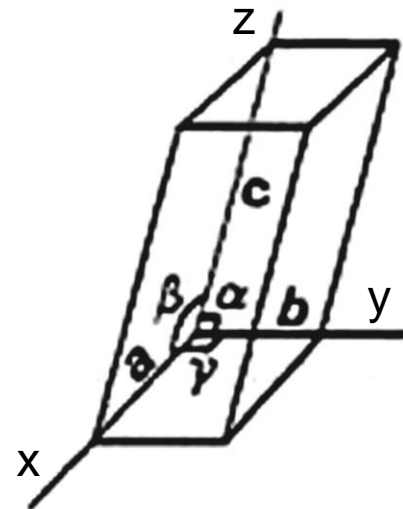
SISTEMUL TRIGONAL
Z (ROMBOEDRIC)



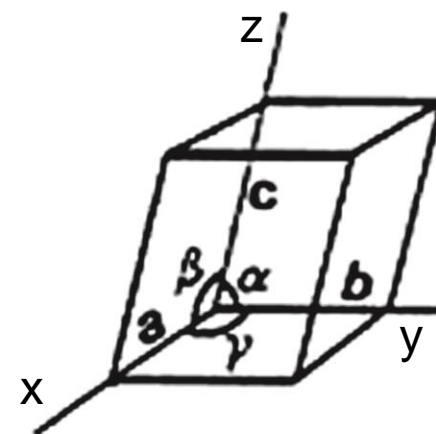
SISTEMUL ROMBIC



SISTEMUL
MONOCLINIC



SISTEMUL
TRICLINIC



SISTEMELE CRISTALOGRAFICE

(Androne, 2008)