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* EXPERIMENT NO. 2 → Obtain Miller Indices for some of the Principal or common planes and directions in cubic crystal *

Aim → Obtain miller indices for some of the Principal or Common Planes and direction in cubic Crystals.

Objective → After Performing the expirement the learner will be able to

PRO-I → Obtain miller indices of given independent plane using the crystal model.

PRO-II → Obtain miller Indices of given plane and direction Using Crystal modal.

PRO-III → evaluate the Interplaner Spacing for the given plane.

APPARATUS → model of crystal structure showing various planes.

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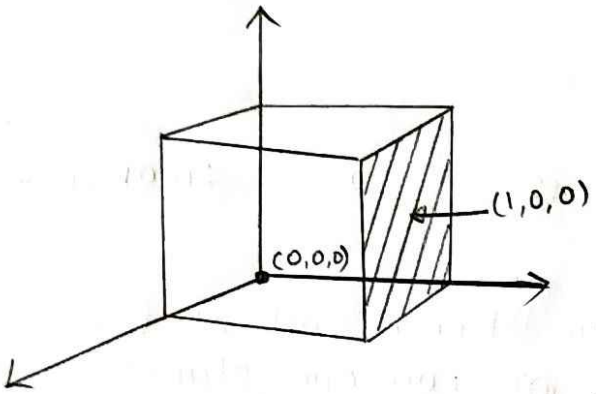
Result's and Discussion :-

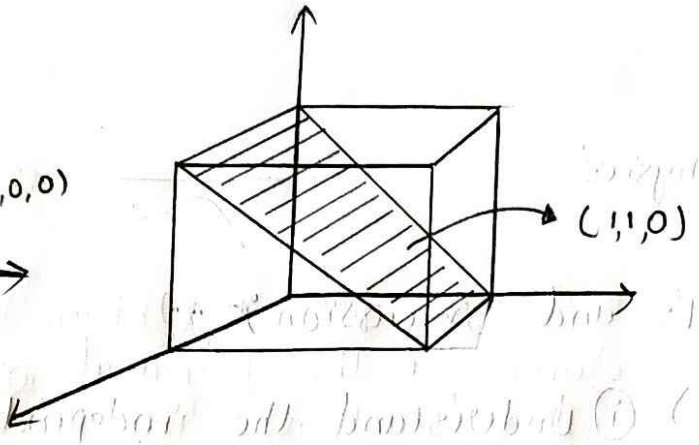
PRO-I) (i) Understand the independent set of plane.
(ii) Miller indices are calculated and planes are drawn
(iii) Other set of independent planes are found.

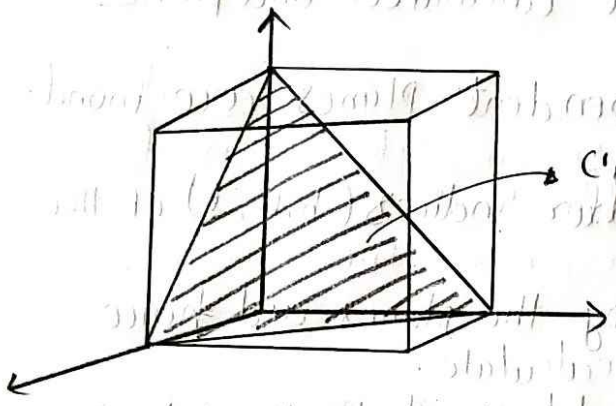
PRO-II) (i) Using the planes, miller indices (h, K, l) of the planes are calculated.
(ii) Intercept are made by the planes and hence mirror indicies are calculate.
(iii) With the help of model the Indices of various planes at the cubic faces at cube edges and for diagonal planes are calculated.
(iv) Accurate miller indices are obtained.

PRO-III.) (i) The interplaner spacing 'd' for a given set of plane calculated.
(ii) The spacing 'd' also calculated from atomic radii 'r'.

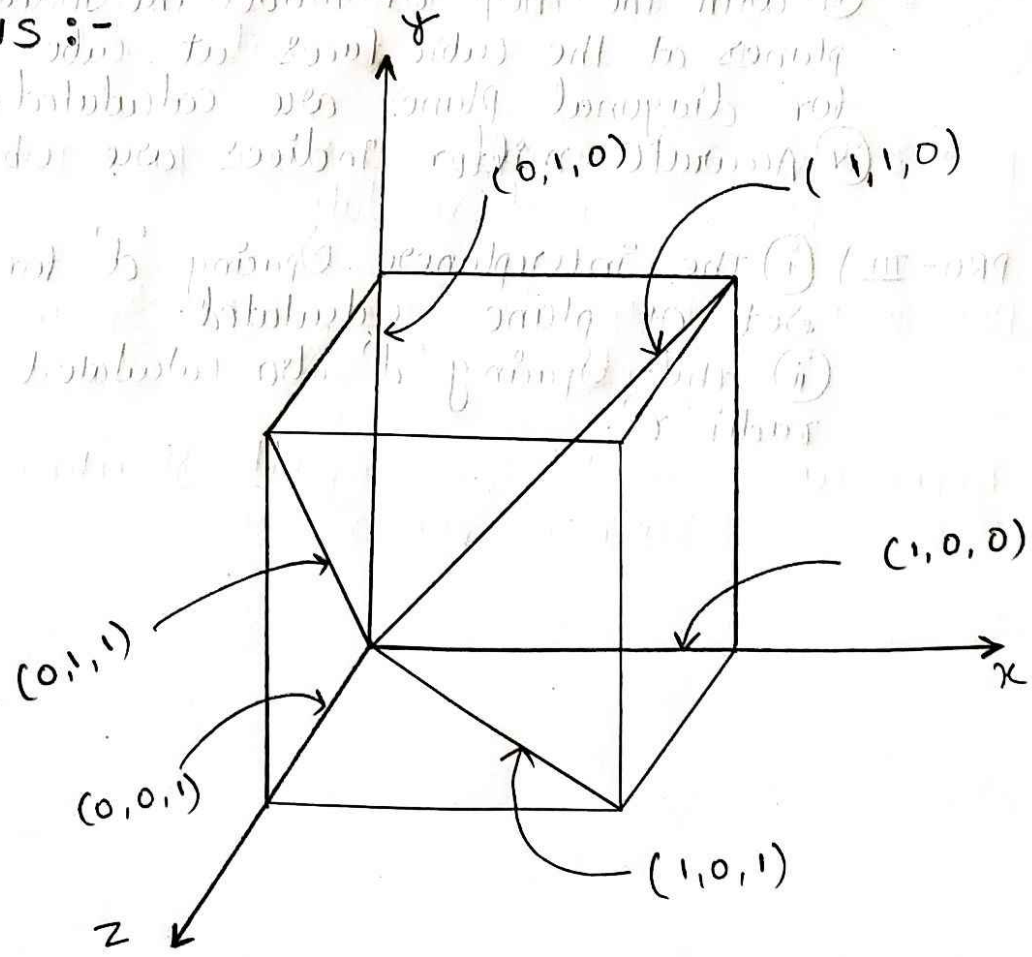
planes.







DIRECTIONS :-



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Conclusion :-

(1) We obtain miller indices for some principle or common planes and direction in cubic crystal.

(2) If we rotate the plane we get an another plane of the same family.

Precaution :-

(1) Use the crystal structure of model carefully

(2) Apply the formula accurately to calculate Interplaner spacing.

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Objective	PRO 1	PRO 2	PRO 3	Total Score	ES and H Department TCET
weight point					Date of performance :-
Score					Date of correction :- Roll no : 29
Earned points (EP) (Total score = 60)					Signature :-