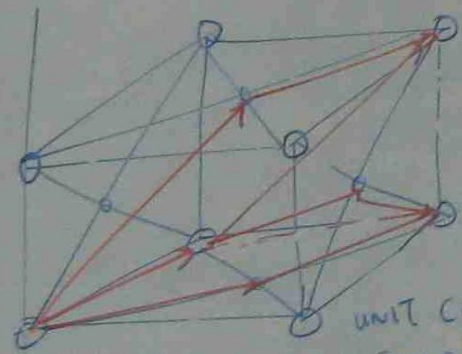


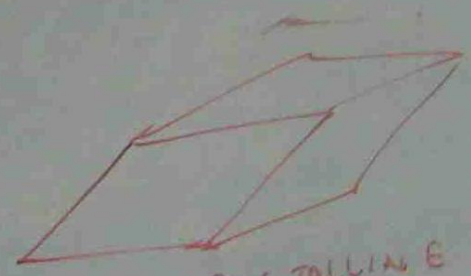
TOR + SOLAR CELL
TECHNOLOGY

CATION
PUMPING
CONNECTED
TO
ALONE

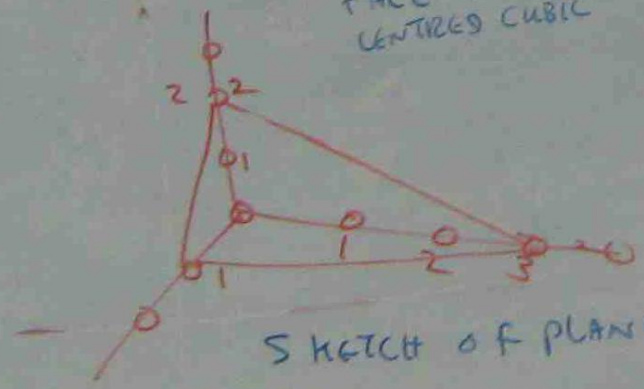
MOST OF PHOTOVOLTIC MATERIALS ARE CRYSTALLINE



UNIT CELL FOR
FACE TO FACE
CENTRED CUBIC



CRYSTALLINE
PRIMITIVE CELL



SKETCH OF PLANE IN
CRYSTAL

IT IS POSSIBLE TO BUILD UP
THE ENTIRE CRYSTAL
STRUCTURE BY REPEATINGLY
STACKING A SMALL
SUB SECTION
THE SMALLEST SECTION
IS KNOWN AS
PRIMITIVE CELL

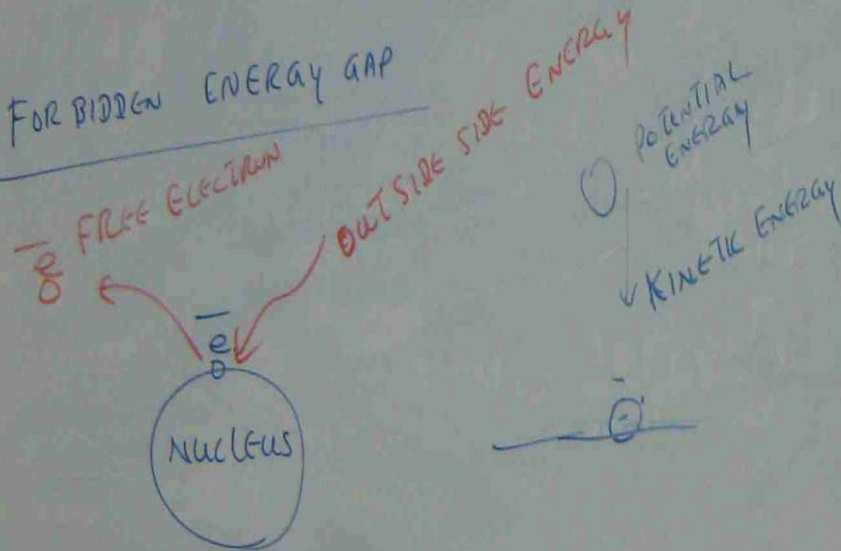
ATOMIC ARRANGEMENT OF SEMICONDUCTORS IN SOLAR CELL TECHNOLOGY

DIAMOND LATTICE

SILICON (SI) GALLIUM ARSENIDE (GaAs)

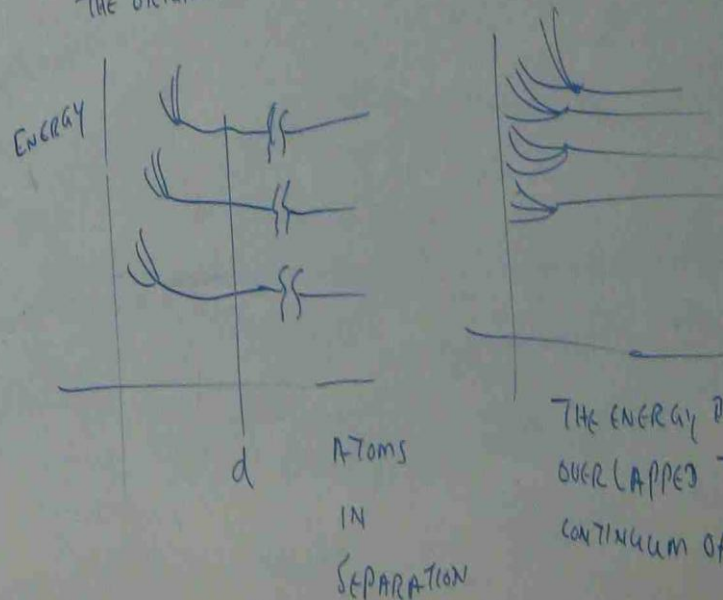
CADMIUM SULFIDE (CdS)

FOR BIDDEN ENERGY GAP



FOR BIDDEN ENERGY GAP

AN ELECTRON IN FREE SPACE HAS AN ESSENTIALLY CONTINUOUS RANGE OF ENERGY VALUES THAT IT CAN ATTAIN. ELECTRONS ASSOCIATED WITH ISOLATED ATOMS HAVE A WELL DEFINED SET OF DISCRETE ENERGY LEVELS AVAILABLE TO THEM. AS SEVERAL ATOMS ARE BROUGHT CLOSER TOGETHER, THE ORIGINAL LEVELS SPREAD OUT TO BANDS OF ALLOWED ENERGY.



THE ENERGY BANDS ARE OVERLAPPED TO GIVE CONTINUUM OF ALLOWED ENERGY