
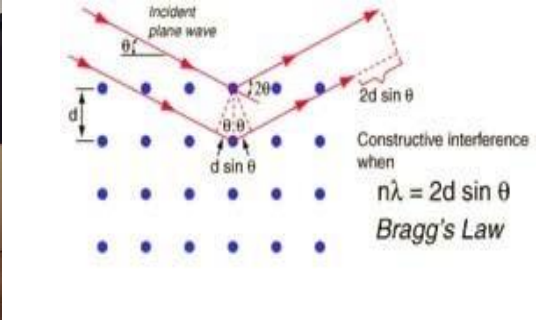
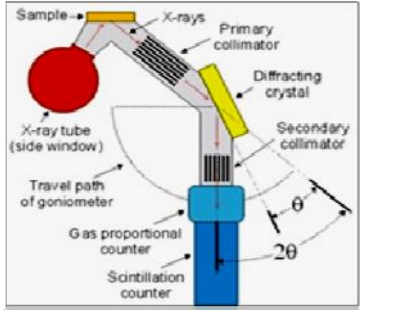


|  |  |   |                            |
|--|--|---|----------------------------|
| <b>Name of Machine</b>   | <b>X-Ray Fluorescence (XRF)</b>  |   |                            |
| <b>Make</b>  | <b>PANalytical, Netherland</b>   | <b>Model</b>  | <b>Axios<sup>MAX</sup></b> |
|   |  <p style="text-align: center;">Constructive interference when<br/><math>n\lambda = 2d \sin \theta</math><br/><b>Bragg's Law</b></p> |  |                            |
| <b>Specification</b>   |  |   |                            |
| <p>The salient features/Specifications of the system are as follows:</p> <ol style="list-style-type: none"> <li>1. Wavelength dispersive (WD-XRF) Machine (power: - 3KW,60kV-160mA) is used for detecting the elements.</li> <li>2. It is a non-destructive analysis technique for the Major oxides and Trace elements present in the sample covering elements from Boron to Uranium.</li> <li>3. Analysis can be done on pressed powder pellets made from fine powder.</li> </ol>     |  |   |                            |
| <b>Working principle:</b>  |  |   |                            |
| <p>A wavelength dispersive detection system physically separates the X-rays according to their wavelengths, the x-rays are directed to a crystal, which diffracts (according to Bragg's Law) the X-rays in different directions according to their wavelengths (energies).</p>   |  |   |                            |
| <b>Application</b>   |  |   |                            |
| <ul style="list-style-type: none"> <li>• Quantification of the elements in Hard rocks and sediment/Soil of geological past</li> <li>• Quantification of Metals &amp; alloys in synthetic material,</li> <li>• Geological samples,</li> <li>• Filter samples.</li> <li>• Environmental Applications</li> </ul>  |  |   |                            |
| <b>User Instruction</b>  |  |   |                            |
| <ol style="list-style-type: none"> <li>1. For Major oxides and trace elements, samples should be provided in powder (-200 mesh) form otherwise grinding charges will also be applicable as per the rate list.</li> <li>2. Sample weight should not be less than 20gm for analysis.</li> <li>3. Data generated will be provided on CD (Compact Disc) or DVD (Digital Versatile Disc).</li> <li>4. Students/Research scholars will prepare pellets for analysis on their own.</li> </ol> |  |   |                            |
| <b>Contact Person</b>  |  |   |                            |
| <b>In-Charge</b>   | <p>Dr. Kamlesh Kumar (0522-2742978)<br/> <b>Email</b> <a href="mailto:kamlesh_kumar@bsip.res.in">kamlesh_kumar@bsip.res.in</a></p>   |   |                            |