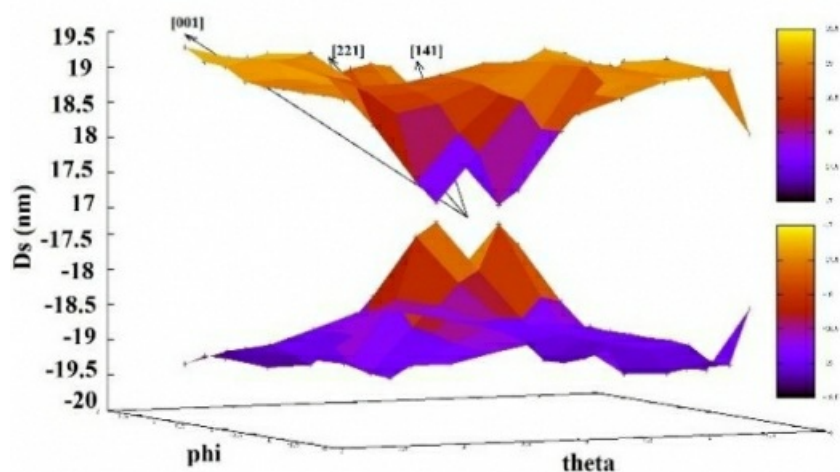


*Imaging of crystallite shapes in various silk forms using PXRD*Gowtham G K<sup>1</sup>, Thejas G Urs<sup>2</sup>, Mahadevaiah D<sup>2</sup>, Byrappa K<sup>2</sup>, Somashekar R<sup>2</sup><sup>1</sup>Dept. of Physics, Yuvaraja's College, University of Mysore, Mysuru, India, <sup>2</sup>Dept. Of Material Science, Mysuru, India  
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The ordered region in a natural fibre have been studied for the first time and reported briefly in this article. Silk in its various forms have been considered for the investigation and further, the effect of microwave irradiation on the silk film is also studied. Pure Mysore Silk (PMS) *Bombyx mori* in the form of cocoon, fiber and film have been investigated. Pure silk film from raw fibers were prepared employing the protocol stated by Rockwood et al. Crystallite shapes which define the ordered region in a material is computed using X-ray diffraction (XRD) data. Functional data analysis (FDA) of the samples was carried out to validate the experimental results by finding the correlation between various physical parameters.

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