Topological Character of Defects in Devices

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In the construction of successful devices it is important to know the character of defects that might arise within individual crystalline layers or in the interfaces between layers. This can be achieved using Topology theory when the space-groups of the constituent crystals are known. An introduction to the underlying principles of Topology theory will be presented in the context of semi-conductor devices. Experimental observations of dislocations and extended defects in a range of materials systems will be used as illustrations.