

Orientation

Orientation is the position of a feature relative to its surroundings and characteristics of the substrate (e.g., "Orientation/lower border of view area"). Orientation includes linear arrangements of features, minerals, and cell-sized objects. Orientation also includes the alignment of structures and their 3D spatial arrangements. One example is tunnels that can be positioned relative to fractures, vesicles (bubbles), minerals, or other tunnels. For example, evidence in support of the biogenic prevalence of the tunnels, includes the density or spacing of microtunnels which is interpreted to reflect sharing of the substrate. An example for filaments includes their directional growth within a mat, which can have a vertical or horizontal orientation relative to the surface, and can be interpreted to reflect phototactic or chemotactic growth.