



## Mechanism behind Formation of Circumhorizontal Arcs

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### DESCRIPTION

Rainbow clouds or flaming rainbows are other names for the iridescent clouds. The term circumhorizontal arcs are used in science. When the Sun is higher than  $58^\circ$  above the horizon, they take place. The circumhorizontal arc is strongest when the Sun is at an elevation of roughly  $68^\circ$ . The circumhorizontal arc is not seen in nations north or south of latitude  $55^\circ$  since there, the Sun is usually lower than  $58^\circ$ . Therefore, this is one of the few haloes that cannot be seen from every location on Earth. If a  $46^\circ$  halo is visible, the circumhorizontal arc contacts it when the light source's angular elevation is approximately  $68^\circ$ . With a light source farther from  $46^\circ$ , these two halo forms are more isolated from one another. Even without the  $46^\circ$  halo, the arc might be discernible. These kinds of clouds are brought on by extremely small airborne ice crystals or water droplets. Small ice crystals or water droplets allow light to be diffracted and spread out, generating this rainbow-like effect in the clouds, as opposed to larger ice crystals that generate lunar or solar halos. When the droplet size is constant throughout the cloud they can only be organized into coronal rings.

### ALTOCUMULUS, CIRROCUMULUS AND LENTICULAR CLOUDS

As the cloud changes, the bands and colors appear and disappear. Cirrocumulus clouds are thin; white clouds that appear in ripples arranged in a regular pattern and are most frequently associated with waves in the atmosphere. The smaller size of the individual cloud particularly in lenticular clouds a patch that resembles a lens or an almond, frequently highly

elongated and typically with distinct outlines distinguishes them from altocumulus. The Lenticular clouds are patch may consist of small, closely spaced components or it may be one generally smooth unit with distinct shadings. Irisation can be seen on occasion. Because all the droplets thus have a similar history and consequently have a similar size, iridescence is most frequently observed as a portion of a cloud is formed.

### CONCLUSION

Cirrus clouds in addition to the Sun's position are a necessary component for the formation of circumhorizontal arcs. The fine wispy clouds known as cirrus are seen at higher altitudes. These clouds are comprised of ice crystals since the area where they are located has such low temperatures. The rainbow is produced when light refracts through the plate-like crystals after the Sun has risen higher than  $58^\circ$ . The Sun may produce stunning rainbow-colored clouds in a variety of ways, including circumzenithal arcs, infralateral arcs, and iridescent clouds. Circumhorizontal arcs are just one of the optical illusions that the Sun and cirrus clouds can produce. At cloud boundaries, the typically delicate colors might appear in seemingly haphazard bands or patches. Iridescence is most frequently seen close to the Sun, while it can occasionally be seen farther away. For coronas, search securely by hiding the Sun behind a building and much better looking at the sky's reflection in water. Iridescence in clouds is not very common. The cloud must be small and dense with roughly the same-sized water or ice crystals. The Sun's rays only get into contact with a few drops at a time when that occurs. The clouds that are most likely to have iridescence are those that are just beginning to develop or are semi-transparent.

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