Atmospheric Halos

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Complex Display at South Pole
Image © Marko Riikonen

Columnar and Plate Ice Crystals

Good/Bad Crystals for Halo Formation

Crystals collected during a superb South Pole display on 17 January 1986. Apart from a few small air bubble inclusions, the crystals really are like their hexagonal plate and column ideals.

Source: http://www.atoptics.co.uk/halo/xtalreal.htm

22° and 46° Halos

22° Halo

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Sundog (Parhelion)

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Ice Crystal Phenomena

22° Halo and Sundogs

Upper Tangent Arc

- Positioned at top of 22° halo
- Diamond dust was falling when the photo was taken
Circumzenithal Arc

- You are looking almost straight up with the sun at the bottom of the image
- Formed by refraction through hexagonal plate crystals
- The supralateral arc is more common than, and is often mistaken for, the 46° halo
- Sun is below 32° elevation

Supralateral Arc

22° Halo

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Upper Tangent Arc with Circumzenithal Arc

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Sundog, parhelic circle, 22° halo, and a dim upper tangent arc

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More information

For more great images and explanations, visit http://www.atoptics.co.uk/halosim.htm

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