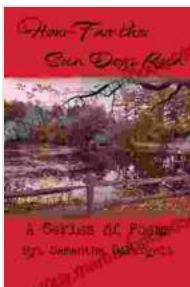


How Far Do Sun Dogs Run? Exploring the Fascinating Optics of Sundogs

Sun dogs, or parhelia, are a beautiful and fascinating optical phenomenon that occurs when sunlight passes through ice crystals in the atmosphere. They appear as bright spots of light to the left and right of the sun and can often be mistaken for a second sun.

Sun dogs are caused by the refraction and reflection of sunlight by hexagonal ice crystals that are suspended in the atmosphere. These ice crystals act as tiny prisms, bending and reflecting the sunlight in a way that creates the illusion of a second sun.

The distance between the sun and the sun dogs can vary depending on the size and orientation of the ice crystals. In general, the larger the ice crystals, the further apart the sun dogs will be from the sun. The orientation of the ice crystals also affects the distance between the sun and the sun dogs. When the ice crystals are aligned vertically, the sun dogs will appear closer to the sun. When the ice crystals are aligned horizontally, the sun dogs will appear further apart from the sun.



How Far the Sun Dogs Run by Hannah Vandegrift Eldridge

★★★★☆ 4.7 out of 5

Language : English

File size : 695 KB

Text-to-Speech : Enabled

Screen Reader : Supported

Enhanced typesetting : Enabled

Print length : 42 pages



In most cases, sun dogs will appear within 22 degrees of the sun. However, in some cases, sun dogs can appear as far as 46 degrees away from the sun. These sun dogs are known as "phantom sun dogs" and are caused by the reflection of sunlight by ice crystals that are located high in the atmosphere.

Sun dogs are a relatively common optical phenomenon, but they are not always visible. The best time to see sun dogs is during the winter months when the sun is low in the sky and there is a high concentration of ice crystals in the atmosphere. Sun dogs can also be seen during the summer months, but they are less common.

If you see sun dogs, be sure to take a moment to appreciate their beauty and marvel at the fascinating optics that create them.

There are a number of factors that can affect the visibility and distance of sun dogs, including:

- **The size of the ice crystals:** The larger the ice crystals, the further apart the sun dogs will be from the sun.
- **The orientation of the ice crystals:** When the ice crystals are aligned vertically, the sun dogs will appear closer to the sun. When the ice crystals are aligned horizontally, the sun dogs will appear further apart from the sun.
- **The concentration of ice crystals in the atmosphere:** The higher the concentration of ice crystals in the atmosphere, the more visible

the sun dogs will be.

- **The time of day:** Sun dogs are most visible during the winter months when the sun is low in the sky and there is a high concentration of ice crystals in the atmosphere.
- **The location:** Sun dogs are more common in polar regions where there is a higher concentration of ice crystals in the atmosphere.

Sun dogs are a beautiful and fascinating optical phenomenon that can be seen in many parts of the world. The distance between the sun and the sun dogs can vary depending on a number of factors, including the size and orientation of the ice crystals in the atmosphere. Sun dogs are most visible during the winter months when the sun is low in the sky and there is a high concentration of ice crystals in the atmosphere.



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