

Hummingbird's wings diffraction

Nature is full of impressive physical phenomena related to electromagnetism, fluid physics, optics, and so on¹. Among optical phenomena, the diffraction of light can be observed in several scenarios. Diffraction occurs when light impinges an object whose features are close to the light wavelength. As an example, butterfly wings' colors are due to the diffraction of the light reflected by them². Another diffraction effect is produced when light passes through the wings of some birds, such as the Hummingbird. The wing is composed of very tiny hairs closely positioned parallelly, which act as a diffraction grating^{3,4}. This effect has been masterfully captured by the photographer Christian Spencer⁵, Fig. 1. In the photographs, we may observe the color spreading that commonly occurs when a diffraction grating is illuminated by white light, the Sun is this case.

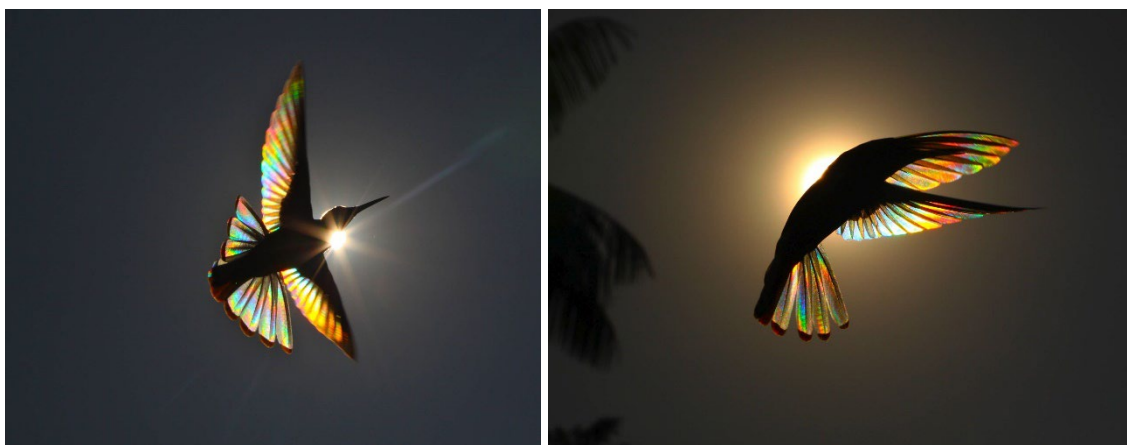


Fig. 1. Left “WINGS OF LIGHT” copyright Christian Spencer, right “WINGED PRISM” copyright Christian Spencer. Photographs reproduced with permission of the author.

REFERENCES

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