Arago, Fresnel and the "Geometric Phase"

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A recent article [1] discussed work of Arago around 1811 concerning the optics of a stack of polarizers. Readers may be interested that a continuation of this work by Arago and Fresnel made the first identification of what is now called the "geometric phase", as discussed in Ref. [2]. A short review of the concept of the "geometric phase" is given in Ref. [3].

References

[1] Y. Gutiérrez and J.M. Saiz, *Journey from the center of the Poincaré sphere*. Am. J. Phys. **94**, 782-789 (2026). https://doi.org/10.1119/5.0331548
https://kirkmcd.princeton.edu/examples/optics/gutierrez_ajp_94_782_26.pdf

[2] O. Arteaga, *Fresnel-Arago fifth law of interference: the first description of a geometric phase in optics*, J. Mod. Opt. **68**, 350-356 (2021).
https://doi.org/10.1080/09500340.2021.1898687
https://kirkmcd.princeton.edu/examples/optics/arteaga_jmo_68_350_21.pdf

[3] K.T. McDonald. *The Falling Cat and All That: A Short Story of the "Geometric Phase"* (Nov. 10, 2023). https://kirkmcd.princeton.edu/examples/cat.pdf