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Cloud Ripple Pattern

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Fermi Questions

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Cloud Ripple Pattern



► Question 1:

Last summer, as I was walking across campus I noticed the above cloud with wave-like structure. This cloud is most likely an isolated example of *altocumulus undulatus*, which most commonly occurs in the altitude range of 2.5–6 km. This cloud was at approximately a 45-degree elevation, and the wavelength (or crest-to-crest distance) was about the width of my index finger held at arm's length. Estimate this wavelength.

► Question 2:

Estimate the area of the shadow cast on the ground by the cloud. (Assume the cloud lies in a horizontal plane and is of negligible vertical extent.)
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Look for the answers online at tpt.aapt.org under “Browse,” at the very end of the current issue.

Fermi Questions are brief questions with answers and back-of-the-envelope estimation techniques. To submit ideas, please email John Adam (jadam@odu.edu).