

Let's Look for Inferior Mirages at the Seaside --Observation Network by Students and Citizens--

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The conditions of occurrence of inferior mirages were investigated after we encountered a mirage at the seaside of Madagascar by chance (Fig.1; Kawai et al. 2020, *Tenki*). Typical inferior mirages at the seaside are, for instance, floating islands and the Omega (Daruma) Sun. We simulated the detailed temperature profile near the sea surface under various conditions using the state-of-the-art simulation model, and traced the ray. The results imply that inferior mirages can be observed quite often. Though it is recognized that inferior mirages occur more frequently than superior mirages, there are no detailed data of the occurrence frequency. It is interesting to reveal the occurrence frequency of inferior mirages at various locations, including the dependency of seasons and the local time. It is possible that detailed temperature profiles near the sea surface can be inversely estimated from the mirage occurrence data. Students from elementary schools to universities and citizens would contribute to make voluntary observation networks for mirages at the seaside.

Keywords: mirage, floating island, ray tracing, citizen science, science education



第1図: マダガスカルの海上でカヌーから撮影された蜃気楼。2017年4月15日。矢印は消失線の位置。ごく一般的な、3万円程度のデジタルカメラにより撮影。3つの写真は、観測者の位置、撮影の方角共に異なっていることに留意(川合他、2020、天気)。