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Investigating Dunedin Whistlers using Volcanic Lightning

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Abstract content
 (Max 300 words)

Whistlers detected at Dunedin, New Zealand, are unusual: whereas the classical model for whistler generation suggests that the source lightning occurs close to the magnetic conjugate point, the source lightning for Dunedin appears to be on the west coast of Central America, far from the conjugate point.

Our aim is to investigate Dunedin whistlers further by determining the location of the source lightning more precisely. It is best to go about this by attempting to individually pinpoint a lightning stroke for each whistler. This, however, is complicated by the fact that there is a lot of lightning activity in the Dunedin source region, making chance coincidences between lightning and whistlers quite likely. We thus turn to high-latitude volcanoes, where lightning rarely occurs except during an eruption. By limiting our search to these locations of infrequent lightning events we hope to identify individual volcanic lightning discharges which might be linked to whistlers at Dunedin.

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