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Cirrus Clouds and Multiple Tropopause Events over Buenos Aires

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ABSTRACT

Lidar measurements of midlatitude cirrus clouds over Buenos Aires, collected between 2002 and 2003 are compared with multiple tropopauses (MT) retrieved from rawinsonde temperature retrievals. Results derived from the rawinsondes display MT events with an annual cycle which are fewest in March. Comparison with lidar observations shows that cirrus clouds are mostly located closely below the first tro-popause, but when cloud top is above the first tropopause, in 25% of cases, the cloud base is not above it, resulting in a cirrus cloud crossing the inter-tropopause region. Compared with the distribution of the whole population of midlatitude cirrus clouds, cross-tropopause cirrus clouds display a similar geometrical thick-ness as inter-tropopause cirrus clouds.

KEYWORDS

Multitropopause Events, Cirrus Clouds, Lidar

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