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# Brunt-Väisälä Frequency and Rossby Radii in the South Atlantic

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### ABSTRACT

Brunt-Väisälä frequency profiles have been calculated in the South Atlantic and neighboring regions on a  $5^\circ \times 5^\circ$  grid between  $30^\circ\text{N}$  and  $70^\circ\text{S}$ ,  $70^\circ\text{W}$  and  $70^\circ\text{E}$ , using the annual mean temperature and salinity profiles computed by Levitus from data available from the National Oceanographic Data Center (NODC). These Brunt-Väisälä frequency profiles are used in the computation of the first and second internal Rossby deformation radii. The external Rossby radius is computed for reference.

These results compare very well with those of Emery et al. for the equatorial Atlantic. Very small values of the radii are evidenced in the extreme south (less than 10 km in the Antarctic Circumpolar Current for the first internal mode). High vertical variability in Brunt-Väisälä frequency profiles is also observed at the center of the subtropical gyre. This behavior is probably due to the lack of deep data in this region.

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