



## Abstract View

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# A Determination of Horizontal Divergence in the Gulf Stream off Cape Lookout

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### ABSTRACT

A horizontal divergence of  $2 \times 10^{-5} \text{ sec}^{-1}$  was determined by tracking three shallow drogues in the speed axis of the Gulf Stream. Concurrent bathythermograph soundings along a drogue track support this magnitude. The data also provide estimates of the strength of turbulence encountered. In terms of the neighbor diffusivity, they amount to  $2 \times 10^5 \text{ cm}^2 \text{ sec}^{-1}$  for a drogue separation scale of 4 km, and  $4 \times 10^4 \text{ cm}^2 \text{ sec}^{-1}$  for the 2-km scale.

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