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Limiting case of the Sobolev inequality in BMO, with application to the Euler equations.

(English) [Zbl 0985.46015](#)

Commun. Math. Phys. 214, No. 1, 191-200 (2000).

The authors prove (Theorem 1)

$$\|f\|_{L^\infty} \leq c [1 + \|f\|_{\text{BMO}} (1 + \log^+ \|f\|_{W_p^s})],$$

where $1 < p < \infty$ and $s > \frac{n}{p}$. Here $W_p^s(\mathbb{R}^n)$ are the Sobolev spaces in \mathbb{R}^n . They apply this result to Euler equations for incompressible fluid motions in \mathbb{R}^n (Theorem 2).

Reviewer: [Hans Triebel \(Jena\)](#)

MSC:

[46E35](#) Sobolev spaces and other spaces of “smooth” functions, embedding theorems, trace theorems

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Keywords:

[BMO](#); [limiting inequalities](#); [Euler equation](#); [incompressible fluid motions](#)

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