

Edmunds, David E.; Gurka, Petr; Opic, Bohumír

Compact and continuous embeddings of logarithmic Bessel potential spaces. (English)

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Stud. Math. 168, No. 3, 229-250 (2005).

The paper deals with continuous and compact embeddings of the refinement $H^\sigma L_{p,q;\alpha_1,\dots,\alpha_m}(\Omega)$ of the Bessel potential spaces $H_p^\sigma(\Omega)$ into generalised Lorentz–Zygmund spaces $L_{r,q;\alpha_1,\dots,\alpha_m}(\Omega)$ and generalised Hölder spaces $C^{0,\lambda(\cdot)}(\bar{\Omega})$. Here, $1 < p < \infty$ and Ω stands for \mathbb{R}^n or a bounded domain in \mathbb{R}^n . Furthermore, $L_{p,q}$ are the usual Lorentz–Zygmund spaces, while the $\alpha_1, \dots, \alpha_n$ refer to logarithmic refinements and λ indicates a generalised modulus of continuity.

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

MSC:

46E35 Sobolev spaces and other spaces of “smooth” functions, embedding theorems, trace theorems

Cited in **1** Review
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Keywords:

Bessel potential spaces; generalized Lorentz–Zygmund spaces; embeddings

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