

Re: mystery Sobolev space

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gsspradlin@xxxxxxxx wrote:

Netizens:

What does H^s , mean, where there is a dot directly above the H? I think it is some sort of Sobolev space, similar to H^s . In the context in which I am interested, a function in H^s is a real-valued function whose domain is the real numbers.

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It's the homogeneous Sobolev space. For example, H^1 are those functions f for which f and $\text{grad } f$ are in L_2 . H^1 are those functions for which $\text{grad } f$ is in L_2 . It's a bit tricky because you have to work modulo constants, and for larger s modulo polynomials of the appropriate degree.

(Hardly a definition, but I hope the example makes it clear.)

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