

Image of trace (Sobolev spaces)

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- *From:* craig <ctcowan@xxxxxxxxxxxx>
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Suppose Ω is open, bounded and smooth. Let T denote the usual trace operator.
ie. for u in $H^1(\Omega)$, Tu is the restriction of u to boundary of Ω ($\partial\Omega$).

Question:

Is $T(H^1(\Omega))$ dense in $L^2(\partial\Omega)$?

Also what classes of functions defined on $\partial\Omega$ are dense in say $L^2(\partial\Omega)$?

To do this properly do I need to know some diff. geom?

thanks

craig

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