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# THE BOUNDARY BEHAVIOR OF FUNCTIONS OF SOBOLEV SPACES DEFINED ON A PLANAR DOMAIN WITH A PEAK VERTEX ON THE BOUNDARY

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Let $G$ be a domain with piecewise smooth boundary $\partial G$ and with vertices of exterior peaks on the boundary and let $k$ functions $f_1, \dots, f_k$ ($k$ is a nonnegative integer) be given on $\partial G$.

We find necessary and sufficient conditions for existence of a function $F \in W_p^l(G)$, where $1 < p < \infty$ and $l \geqslant k+1$ is an integer, such that $\frac{\partial^r F}{\partial N^r}\big|_{\partial G} = f_r$, $r = 0, 1, \dots, k$, with $N$ a unit vector field defined on $\partial G$ and nontangent to $\partial G$.

*Key words and phrases*: Sobolev space, exterior peak, trace on the boundary, trace space.

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