Schauder estimates up to the boundary on H-type groups: an approach via the double layer potential

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We will show how to obtain the Schauder estimates at the boundary away from the characteristic points for the Dirichlet problem by means of the double layer potential in a Heisenberg-type group $\mathbb{G}$. Despite its singularity we manage to invert the double layer potential restricted to the boundary thanks to a reflection technique for an approximate operator in $\mathbb{G}$. This is the first instance where a reflection-type argument appears to be useful in the sub-Riemannian setting. This is a joint work with G. Citti and Y. Sire.