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	abstract	Using hyperbolic form convolution with doubly isometry-invariant kernels, the explicit expression of the inverse of the de Rham laplacian acting on m-forms in the Poincar\'{e} space is found. Also, by means of some estimates for hyperbolic singular integrals, we obtain L^p-estimates for the Riesz transforms passing from the Laplacian to other covariant derivatives, in a range of p depending on m,n. Finally, using these, it is shown that the Laplacian defines topological isomorphisms in the scale of form Sobolev spaces, for m different from n/2,(n+1)/2,(n-1)/2.	**abstract**	Using hyperbolic form convolution with doubly isometry-invariant kernels, the explicit expression of the inverse of the de Rham laplacian acting on m-forms in the Poincar\'{e} space is found. Also, by means of some estimates for hyperbolic singular integrals, we obtain L^p-estimates for the Riesz transforms passing from the Laplacian to other covariant derivatives, in a range of p depending on m,n. Finally, using these, it is shown that the Laplacian defines topological isomorphisms in the scale of form Sobolev spaces, for m different from n/2,(n+1)/2,(n-1)/2.Comment: To appear in Indiana Univ. Math.		
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