

A SURVEY ON VEKUA-TYPE OPERATORS AND ITS REGULARITY

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ABSTRACT. In this talk I will present recent results from some authors about the solvability and global hypoellipticity of operators of the form

$$Lu = Pu - Au - B\bar{u}$$

in 3 different contexts. The first one is the case where L acts on ultra-distributions defined on the torus \mathbb{T}^n and P is a constant-coefficient linear differential operator with no 0-order terms. The second one is the case where P is a tube-type vector field also acting on the torus. Finally, the last one will be the case where L acts on invariant distributions on a compact Lie group G and P is an invariant constant-coefficient vector field on G . In the end I will present some ideas of possible continuations of these works.

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