

## Sharp Schauder estimates for some degenerate Kolmogorov equations

PAUL-ÉRIC CHAUDRU DE RAYNAL, IGOR HONORÉ AND STÉPHANE MENOZZI

**Abstract.** We provide some sharp Schauder estimates for degenerate PDEs of Kolmogorov type when the coefficients lie in some suitable anisotropic Hölder spaces and the first-order term is non-linear and unbounded. We proceed through a perturbative approach based on forward parametrix expansions.

Due to the low regularizing properties of the degenerate variables, for the procedure to work, we heavily exploit duality results between appropriate Besov spaces.

Our method can be seen as *constructive* and provides, even in the non-degenerate case, an alternative approach to Schauder estimates.

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