An iteration procedure for a class of difference equations

M.A. Nowak

We consider approximation methods for operator equations of the form

$$Au + Bu = f\,;$$

where A is a discrete Wiener-Hopf operator on l_p $(1 \leq p < \infty)$ which symbol has roots on the unit circle. Conditions on perturbation B and f are given in order to guarantee the applicability of projection-iterative methods. Effective error estimates, and simultaneously, decaying properties for solutions are obtained in terms of some smooth spaces. This talk is based on joint work with P. A. Cojuhari.

References

[1] Cojuhari P. A., Nowak M. A., *Projection-iterative methods for a class of difference equations*, Integral Equations and Operator Theory, 64 (2009), 155–175.

[2] Nowak M. A., *Approximation methods for a class of discrete Wiener-Hopf equations*, Opuscula Math., 29/3 (2009), 271–288.