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Tytuł: *Spectra and finite sections of infinite band matrices*

Abstrakt: We are looking at bounded linear operators A on vector-valued ℓ^p spaces. Our operators are given by infinite matrices with finitely many nonzero diagonals or by uniform limits of such (so that the entries decay as one goes away from the main diagonal). We will give a formula for the essential spectrum of A that can be made concrete in the case of certain types (random, almost periodic, slowly oscillating) of diagonals. For the case of three diagonals we will also discuss upper bounds on spectrum and pseudospectrum. These upper bounds are derived by looking at certain submatrices of A with finite size n, and they are shown to converge to the (pseudo)spectrum of A if $n \to \infty$. If time allows, we will also discuss the stability of truncation methods for the approximate solution of equations $Ax = b$.