Galerkin method with graded meshes for Wiener-Hopf operators with PC symbols in L^p spaces

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This paper is concerned with the applicability of maximum defect polynomial Galerkin spline approximation methods with graded meshes to systems of Wiener-Hopf operators with piecewise continuous generating function in L^p spaces. For this, an algebra of sequences is introduced, which contains the approximating sequences we are interested in. There is a direct relationship between the stability of the approximation method for a given operator and invertibility of the corresponding sequence in this algebra. Exploring this relationship, we apply techniques to make possible the use of local principles and identification of the local algebras in order to derive stability criteria for the approximation sequences.