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Algebraization of Stability for Singular Integral Equations

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Abstract: An algebraization of stability and projection methods will be applied to certain equations characterized by singular integral operators with shift. In particular, this will lead to the construction of a corresponding polynomial collocation method. The main goal is to obtain information about the approximation numbers and the Moore-Penrose invertibility of the singular integral operators under study. Moreover, a relation between the so-called k-splitting property and the kernel dimension of certain associated operators will be presented.