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Subscalarity of k-th Roots of Hyponormal Operators

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If a Hilbert space operator A, $A \in B(\mathcal{H})$, is a k–th root of a hyponormal or a p-hyponormal or an M-hyponormal operator such that the spectrum of A is contained in an angle $< 2\pi/k$ with vertex in the origin, then A is subscalar. In general, p–quasihyponormal operators fail to be subscalar; however, if a p–quasihyponormal operator $A \in B(\mathcal{H})$ satisfies $A^{-1}(0) \subseteq A^{*-1}(0)$, then A is subscalar. k–th roots of (p,q)–quasihyponormal operators satisfy Bishop's property (β). Consequently, k–th roots A of p-hyponormal, M–hyponormal and (p,q)–quasihyponormal operators are not supercyclic, and if $\sigma(A)$ is thick then A has a nontrivial invariant subspace; furthermore, $f(A+T)$ satisfies Weyl's theorem, and $f(A^*+T^*)$ satisfies a–Weyl's theorem, for every algebraic operator T which commutes with A and every f which is analytic in an open neighbourhood of $\sigma(A+T)$.