

ABSTRACT. Structure of the quotient modules in $H^2(\Gamma^2)$ is very complicated. A good understanding of some special examples will shed light on the general picture. This paper studies the so-called N_φ -type quotient modules, namely, quotient modules of the form $H^2(\Gamma^2) \ominus [z - \varphi]$, where $\varphi(w)$ is a function in the classical Hardy space $H^2(\Gamma)$ and $[z - \varphi]$ is the submodule generated by $z - \varphi(w)$. This type of quotient module provides good examples in many studies. A notable fact is its close connections with some classical operators, namely the Jordan block and the Bergman shift. This paper studies spectral properties of the compressions S_z and S_w , compactness of evaluation operators, and essential reductivity of $H^2(\Gamma^2) \ominus [z - \varphi]$.