

# SPECTRAL ANALYSIS OF THE CR PANEITZ OPERATOR

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**Abstract:** The CR Paneitz operator, a CR invariant fourth-order linear differential operator, plays a crucial role in three-dimensional CR geometry. It is deeply connected to global embeddability, the CR positive mass theorem, and the logarithmic singularity of the Szegő kernel. In this talk, I will discuss recent progress on the spectrum of the CR Paneitz operator. Specifically, I will focus on differences in its nature depending on whether it is embeddable or not.