1151-47-70 **Rongwei Yang*** (ryang@albany.edu), 10 Harmony Court, Cohoes, NY 12047. *Hermitian metrics on resolvent set.*

Consider a linear operator A that is densely defined on a Hilbert space $\mathcal{H}$. The operator-valued 1-form $\omega_A(z) = (z-A)^{-1}dz$ is analytic on the resolvent set $\rho(A)$, and it plays important roles in the functional calculus of A. A non-Euclidean Hermitian metric on $\rho(A)$ can be defined through the coupling of the operator-valued $(1,1)$-form $\Omega_A = -\omega_A^* \wedge \omega_A$ with vector state ϕ_x. A notable feature of this metric is that it has singularities at the spectrum $\sigma(A)$. These singularities reveal valuable information about A. A particular case is when A is quasi-nilpotent, in which case the metric lives on the punctured complex plane $\mathbf{C} \setminus \{0\}$. Interestingly, the metric's "blow-up" rate at 0 is linked with A's hyper-invariant subspaces. We will take a close look at the classical example of Volterra operator. (Received August 08, 2019)