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*Co-Higgs Bundles and Poisson Structures*

A co-Higgs bundle on a complex manifold  $X$  is defined as a pair  $(V, \Phi)$ , where  $V$  represents a holomorphic vector bundle on  $X$ , and the co-Higgs field satisfies the integrability condition  $\Phi \wedge \Phi = 0$ . Co-Higgs bundles induce a Poisson structure on the projectivization  $\mathbb{P}(V)$  of the vector bundle. In this talk, we are going to explore the connection between co-Higgs bundles and holomorphic Poisson structures.