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Sections of a Holomorphic Line Bundle.

Let X be a compact complex manifold with an effective divisor D . Then D gives a holomorphic line bundle L on X . We will discuss the following question: given some fixed points of X , whether there is a nonconstant element ϕ in the vector space $H^0(X, L)$ of global sections of L such that ϕ vanishes at these points and defines a submanifold of X . We will also investigate the singularity of the holomorphic map f from the open manifold $Y = X - D$ to a projective space determined by a basis of the vector space $H^0(X, L)$. (Received April 10, 2010)