meromorphic sections of $\Lambda^p T^* M$ with poles of order $\leq k$ on D, i.e., the sheaf of meromorphic p-forms which are holomorphic on $M - D$ and have poles of order $\leq k$ on D.

Similarly, we define $\mathcal{A}^p(*D)$ to be the sheaf on M coming from the presheaf

$$U \longmapsto A^p(U - U \cap D).$$

In general, a C^∞-function is not analytic. Roughly speaking, $\mathcal{A}^p(*D)(U)$ is the set of p-forms differentiable on $M - D$, but possibly singular on D

Both of these fit into complexes of sheaves $(\Omega^*(*D), d)$ and $(\mathcal{A}^*(*D), d)$ on M.

Next, we define $\Omega^p(\log D)$ to be the subsheaf of $\Omega^p(*D)$ generated by the holomorphic forms and the logarithmic differentials dz_i/z_i $(i = 1, 2, \cdots k)$.

Symbolically,

$$\Omega^p(\log D) = \Omega^p \left\{ \frac{dz_1}{z_1}, \cdots \frac{dz_k}{z_k} \right\}.$$

I think $\Omega^p(\log D)$ is generated by holomorphic p-forms and meromorphic forms which are locally $\frac{dz_i}{z_i}$. For example, $f \frac{dz_1}{z_1}$, where f is $(p-1)$ holomorphic form. If $p = 2$, $\frac{dz_2 \wedge dz_1}{z_3} \notin \Omega^2(\log D)$.