

# Intersection matrix and neighborhood structure of complex curves

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**Abstract:** Let  $C$  be a connected compact complex curve on a non-singular complex surface. We investigate function-theoretic properties of the neighborhood of  $C$  by dividing the situation into three cases according to the sign of the largest eigenvalue  $\lambda$  of its intersection matrix. We mainly focus on the case  $\lambda > 0$ . In this case, for a neighborhood  $V$  of  $C$ , we show the existence of a strictly plurisubharmonic function on  $V \setminus C$  which has a logarithmic growth along  $C$ . This talk is based on joint work with Tetsuo Ueda.