Integral section of certain rational elliptic surfaces and contact conics for an irreducible 3−nodal quartics

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Let $\mathcal{Q}$ be an irreducible 3-nodal quartic and let $\mathcal{C}$ be a conic such that $\mathcal{C} \cap \mathcal{Q}$ does not contain any node of $\mathcal{Q}$ and the intersection multiplicity at $z \in \mathcal{C} \cap \mathcal{Q}$ is even for each z. In this talk, we will determine the splitting type of $f_{\mathcal{C}}^{*}\mathcal{Q}$, where $f_{\mathcal{C}} : Z_{\mathcal{C}} \to \mathbf{P}^2$ is the double cover of $\mathbf{P}^2$ branched along $\mathcal{C}$. The type of $\mathcal{C}$ depends on how the tangent line at z intersects with $\mathcal{Q}$. As an application we construct Zariski pairs.