⌈ T_ϵ is a smoothing of T_E.

$\Rightarrow$ $T_E(\varphi) = \int_M T_\epsilon \wedge \varphi = \int_E \varphi$

$\Rightarrow$ $T_E(T_\epsilon) = \int_E T_\epsilon = \int_M T_\epsilon \wedge T_\epsilon = E \cdot E$ by Poincare duality P56 ~ P59.

$\Rightarrow$ If T_ϵ is positive, then $\int_E T_\epsilon \geq 0$, but $E \cdot E = -1$.

$\Rightarrow$ Contradiction. ⌋

The intuitive reason for this is that T_ϵ is a smooth form supported in ϵ-tubular neighborhood of E, and so T_ϵ has to do with the shape of the normal bundle of E.

⌈ $T_E(\varphi) = 0$ if $\mathrm{supp}\,\varphi \subset E^c$. $\mathrm{supp}\,T_\epsilon \subset$ ϵ-tubular nbd of E, roughly speaking. ⌋

To say that T_ϵ is positive would be something like saying that the normal bundle has positive curvature, which is not the case in this example.

⌈ $c_1(L) = \left[\frac{\sqrt{-1}}{2\pi} \Theta \right]$ by P141. compare with P148 ⌋

"Comment" $\begin{array}{l} L \to \text{line bundle.} \\ \downarrow \\ M \to \text{curve} \end{array}$ $\Rightarrow$ $L = [D]$, D is a divisor of M.

$\Rightarrow$ By P141, Proposition 2, $c_1(L) = \eta_D \in H^2_{DR}(M)$.