Prop. $f : M^2 \to \mathbb{R}$ stable Morse fct.
closed surface

For $\hat{\alpha}_2' = [\tilde{I}_0^2 + \tilde{I}_e^2] \in H^1(\tau(3,2), \rho_{3,2}(2))$,

$$\varphi_f \circ s_1^*(\hat{\alpha}_2') = f_! w_2(M) \in H_c^1(\mathbb{R};\mathbb{Z}_2) = \mathbb{Z}_2$$

cohomology with cpt support

($w_2(M) \in H^2(M;\mathbb{Z}_2)$: 2^{nd} Stiefel-Whitney class of M

$f_! : H^2(M;\mathbb{Z}_2) = H_c^2(M;\mathbb{Z}_2) \to H_c^1(\mathbb{R};\mathbb{Z}_2)$
Gysin homo. induced by f)

Cor. $f : M^n \to N^{n-1}$ proper,
Thom-Boardman generic

For $\alpha = [\tilde{I}_0^2 + \tilde{I}_e^2] \in H^1(\tau(n+1,n), \rho_{n+1,n}(2))$,

$$\varphi_f \circ s_1^*(\alpha) = f_! w_2(M) + (f_! w_1(M)) \cup w_1(N) \in H^1(N;\mathbb{Z}_2)$$

Please correct the abstract, Corollary 8.3, p. 19.