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ERRATA: "GRIFFITHS' INTEGRAL FORMULA FOR THE MILNOR NUMBER"

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The article [1] contains two numerical errors:

(1) There is no constant $C(n)$ in the Chern-Weil homomorphism. Thus everywhere that $C(n)$ occurs, until the last section (§4), it should be 1, not $2/\operatorname{vol} S^{2n}$. The mistake occurs in formula (4).

This constant arises when one normalizes Gaussian curvature so that spheres have curvature $+1$, which is not the case here.

(2) In §4, the second sentence of the proof says that "$-\omega$ is the Chern form of the universal bundle on P^n," where ω is the Kähler form on P^n. Since there is no agreement on the normalization of the Kähler form, this may or may not be true. If, however, following Griffiths one defines

$$\omega = dd^c \log|z|^2,$$

then the sentence is assuredly false. The Chern form of the universal bundle is rather $-\omega/\pi$. The conclusion of Proposition 2 should therefore say that

$$\chi = \lim_{\epsilon \to 0} \lim_{t \to 0} \sum_{k=0}^{n} \frac{1}{\epsilon^{2k}} \int_{V_t[\epsilon]} c_{n-k}(V_t) \wedge \frac{\phi^k}{\pi^k},$$

and appropriate powers of π should likewise occur in the proof.

The application of Stokes' theorem mentioned in the last sentence of the proof is valid only when one is using Griffiths' normalization.

References

1. G. Kennedy, *Griffiths' integral formula for the Milnor number*, Duke Math. J. **48**(1981), 159–165.