ERRATUM TO
"A BIASED VIEW OF SYMPLECTIC COHOMOLOGY"

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ABSTRACT. We correct an error in [1], pointed out to the author by Ritter. This Erratum will not be published.

Consider equation (3.20) in [1]:

$$\begin{aligned}\Delta\rho = |\partial_s u|^2 - \rho\cdot h_s''(\rho)\cdot\partial_s\rho - \partial_s f\cdot\partial_s\rho \\ - \rho\cdot(\partial_s h_s')(\rho) + \rho\cdot h_s'(\rho)\cdot\partial_s f_s - \rho\cdot\partial_s^2 f_s - \rho\cdot d(\partial_s f_s)(\partial_s u).\end{aligned} \tag{1}$$

The claim made after that equation, that "thanks to the exponential growth of the metric on M, $|\rho\cdot d(\partial_s f_s)(\partial_s u)|$ is actually bounded above by $C|\partial_s u|$", is incorrect.

One considers the symplectization $\mathbb{R}\times Y$, with coordinates (r,y). The Riemannian metric on $\mathbb{R}\times Y$ is derived from an almost complex structure J_s which is invariant under translation in the r-direction, and from the standard symplectic form. Hence, translation in the r-direction scales the Riemannian metric by e^r, and distances by $e^{r/2}$. In (1), $\partial_s f_s$ is a function which depends only on y. Hence, $|d(\partial_s f_s)|$ is bounded by a constant times $e^{-r/2}$. Since $\rho = e^r$, the incorrect claim made above should be replaced by

$$|\rho\cdot d(\partial_s f_s)(\partial_s u)| \leq 2C\rho^{1/2}|\partial_s u| \leq C(B\rho + B^{-1}|\partial_s u|^2), \tag{2}$$

where C is a large constant, and $B > 0$ can be chosen arbitrarily. Instead of equation (3.21), one therefore gets (where again C stands for an arbitrary large constant)

$$\Delta\rho + (\rho\cdot h_s''(\rho) + \partial_s f_s)\cdot\partial_s\rho \geq \rho(-\partial_s h_s'(\rho) - Ch_s'(\rho) - CB) + (1 - B^{-1}C)|\partial_s u|^2. \tag{3}$$

By taking $B > C$, one ensures that the last term is nonnegative. The rest of the argument goes through as before.

REFERENCES

[1] P. Seidel. A biased survey of symplectic cohomology. In *Current Developments in Mathematics (Harvard, 2006)*, pages 211–253. Intl. Press, 2008.